DAIRYMEN'S OPINIONS THAT INFLUENCE THEIR ACCEPTANCE AND USE OF INFORMATION IN THE DHI RECORDS PROGRAM

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CHAPTER I

INTRODUCTION

The Dairy Herd Improvement (DHI) Records Program is designed to provide dairymen information to use in improving producing efficiency of their herds. The records of identification, production, feed consumption, and costs enable dairymen to make decisions to (1) cull the lease profitable cows, (2) feed for the most efficient production, and (3) select the animals with the greatest inherent producing ability for herd replacements and for breeding a better herd for the future.

A records program designed to meet such necessary and beneficial areas of dairy herd management and also being available throughout Oklahoma as well as the total United States should have a high level of participation. Why, then, do approximately 75 percent of dairymen in Oklahoma, as well as similar percentages of dairymen across the United States, choose not to participate in the DHI Program? Or even more questionable, after once participating in the DHI Program and receiving the printed records to use, why do some dairymen discontinue the program? Fifteen to twenty percent of the dairymen in Oklahoma have been on the DHI Program but are not currently enrolled. Approximately 60 to 65 percent of Oklahoma dairymen have never participated in the DHI Records Program.

Benefits of DHI Program

There are volumes of evidence, such as the USDA Sire and Cow Indexes, the Dairy Herd Improvement Letters, Journals of Dairy Science, Agriculture Experiment Station Reports, etc., that indicate DHI Records are an important tool for dairy cattle improvement. The first herd average summary for production, printed in 1906, was 5,300 pounds of milk and 215 pounds of fat (1). When compared to the 13,287 pounds of milk and 499 pounds of fat for 1973 (1), the increase represents an average change of 120 pounds of milk per year per cow. The comparison of the 1973 production of cows on the DHI Program, 13,287 pounds of milk, to the production level of all dairy cows, 9,187 pounds of milk, gives DHI cows a 4,100 pound per year advantage (2).

Not all of the increase can be attributed to only the herds being on the DHI Program. Admittedly, there are other factors of management, the breeding program, feeding, environment, etc., that will have an effect on milk production. However, DHI Records offer the dairymen the tools necessary to make those management decisions.

The DHI Records contain data on production, reproduction, feeding, cost and income, and a genetic evaluation of each cow in the herd. This information is also cumulated into meaningful herd summaries on a monthly or annual basis. The optimum use of all this accumulation of cow and herd information will result in maximizing the return from the dairy herd.

A conservative estimate of the added income to dairymen nationally who participate in the DHI Records Program over those not using

the program was $328 per cow in 1973 (2). This amount was figured by using the 4,100 pounds of milk advantage for DHI cows at a conservative estimated milk price of $8.00/cwt, (4100 lbs. x 8.00 = $328). A good investment for dairymen whose cost for the DHI Program is approximately $9.50 per cow per year.

Dairymen's Opinions Affect DHI Participation

DHI testing is a voluntary program. Dairymen are not required to participate. Dairymen may start on the program at any time they choose, provided a local DHI Supervisor (tester) is available and whose schedule permits the additional herd. Dairymen may also discontinue the program at any time.

King and Murrill (3) reported:

> Dairymen have given many reasons for not enrolling in the DHI Program. Some are: (1) I can't afford it; (2) I know what my cows produce; (3) I don't need to spend the money on testing when I know which cows to cull; (4) It's too expensive; (5) There's no association close enough; (6) I don't want anyone looking at my records; (7) I'm not selling purebred cattle, so I don't need to test; (8) Nobody's ever talked to me about testing; and (9) I'm not going to cull from my small herd, so I'll wait until my herd gets bigger (p. 1).

Dairymen who join the DHI Records Program may encounter some adverse situations that cause discontinuance of the program. Some factors that may lead to a change of attitude are imposing of strict rules by the association, supervisor personality conflicts, and faulty workmanship by the supervisors or malfunction of the equipment. Failure to understand or use the record information, once received, may also lead to the realization that DHI testing should be discontinued.

Dairymen who join the DHI Records Program and continue over a period of time will have differing opinions as to what they expect in the records system and how they use the information to make management decisions. Their knowledge of the program, experiences encountered, and success in using records influence their opinions of the value and validity of DHI Records.

Statement of the Problem

The use of Dairy Herd Improvement Records in managing a dairy herd is highly correlated with the production efficiency and profitability of the herd. However, in Oklahoma approximately 25 percent of the dairymen are utilizing the DHI Program while 75 percent choose not to participate. Probably 12 to 15 percent of those dairymen not participating in the DHI Program currently have been on the program at some time, but discontinued DHI Records due to particular circumstances. The determination of and a better understanding of opinions formed by these circumstances would be helpful to those people involved in the development and operation of the program.

Extension personnel, DHI Association boards of directors, and Dairy Records Computing Center personnel need to know the priorities of use, the information desired in DHI Records, as well as the opinions dairymen have concerning the program. This information would be helpful to those who have the responsibility for development, education, and operation of the Dairy Herd Improvement Records Program.

The Purpose of the Study

The purpose of this study was to determine (1) dairymen's opinions of the DHI Records Program, (2) the amount of influence the information received has on dairymen's management decisions, and (3) the acceptance of new DHI testing programs available.

The Objectives of the Study

To accomplish the purpose of this study, the following objectives were met:

a. To determine dairymen's opinions toward the DHI Records Program.

b. To determine dairymen's opinions toward the local DHI Association and Supervisor.

c. To determine if the addition of a central testing laboratory would improve dairymen's acceptance of validity of records.

d. To determine dairymen's acceptance of the various types of programs now available.

e. To determine, in order, the priorities and the type of management information dairymen want in DHI Records.

Hypotheses

The following hypotheses stated in the null form were tested:

1. There is no statistically significant difference among the opinions of dairymen currently enrolled in the DHI Program and those who have discontinued or those dairymen who have never started on the DHI Records Program toward the DHI Records Program in general.

2. There is no statistically significant difference among the opinions of dairymen currently enrolled in the DHI Program, those who have discontinued or those dairymen who have never started on the DHI Records Program toward the local DHI Association and Supervisor.
3. There is no statistically significant difference among the opinions of dairymen currently enrolled in the DHI Program, those who have discontinued, or those dairymen who have never started on the DHI Records Program toward the DHI Program plans.
4. There is no statistically significant difference among the opinions of dairymen currently enrolled in the DHI Program and those who have discontinued, or those dairymen who have never started on DHI Records toward the type of plan or optional information desired.

Assumptions

A major assumption underlying the study was that dairymen's knowledge of or opinions of the DHI Program concerning content and accuracy or the management of the local DHI Association influence participation in the program. The author accepts the fact that a limitation of this study is the difficulty of separating the effect of opinions toward the DHI Program and the personnel involved in conducting the program. However, the assumption was made that, within the limitation of the instrument used, a sufficient response would be received to justify the separation.

A secondary assumption was that opinions of dairymen would be

measurable with the instruments and procedures employed in the study.

The author assumed that the dairymen of Oklahoma were in the best position to provide information concerning their DHI participation status. The author also assumed that the responses received were the honest expressions of the dairymen and represented their true judgments and feelings.

Scope of the Study

There are several limiting factors that need to be recognized which may introduce a bias in reports from certain areas. There are only 17 DHI Associations operating in 56 counties; therefore, full service has not been available to all dairymen. Two associations are single-county units, and the maximum area covered with one supervisor of multiple-county units is six counties. The distance between farms or miles traveled per herd is a serious problem for DHIA testers.

The mail-in service for areas not served by an association or the newer DHI Programs may not have been advertised to the extent that all dairymen were aware of them.

There are a few small areas in Oklahoma where certain religious groups make up a large portion of the community. In these areas personality conflicts between the local DHIA Supervisor and some dairymen are more prevalent.

Also, those dairymen who have been suspended or questioned concerning rules infractions will likely have a biased attitude against the local DHIA board of directors or the state Extension Dairymen.

Definitions of Terms

DHIA Supervisor. The person employed by the local association to perform the duties necessary to test the members' herds. The terms "supervisor" and "tester" are synonymous for this study.

Test day data. All of the necessary information recorded on the barn sheet. Milk weight, milk sample for butterfat, and feed weights should represent a twenty-four hour period. Breeding, calving, dry, left herd, etc., dates should reflect herd changes for the period between current and previous test.

Lactation to date. The cumulation information on days in milk, milk, fat, and income over feed cost since last calving date or since entering the herd.

Income over feed cost. The value of the milk produced over the amount required to pay for feed cost (figured daily and cumulatively).

Persistency. A percentage figure which tells how well the cow is maintaining her production level compared to a normal lactation curve equated for age, breed, and season.

305-2X-M.E. A record standardized for length of lactation to 305 days, to twice-a-day milking, and to a mature age appropriate for that breed, season, and area.

Difference from herdmates. A comparison of the current 305-2X-M.E. record with the average of cows within the same herd that are of the same breed and calved the same season.

Predicted difference (PD). The measure of the genetic transmitting ability of the sire for milk and fat or dollar income.

NCDHIP. National Cooperative Dairy Herd Improvement Program.

Estimated Producing Ability (EPA). The best estimate of a cow's ability to produce under the conditions of her previous environment, based only on her own past performance.

Estimated Average Transmitting Ability (EATA). The best estimate of a cow's ability to transmit to her offspring based on the genetic evaluation of her paternal sisters, dam, maternal sisters, and daughters in addition to her own production.

Coordinating Group. The governing body of the NCDHIP, made up of 14 men representing the United States Department of Agriculture, Animal Research Service and Extension Service personnel, Pure Bred Dairy Cattle Association, National DHIA, Inc., and the National Association of Artificial Breeders.

Central Testing Laboratory. A laboratory for the testing of the milk samples for butterfat at some location other than the farm or the supervisor's home and by an individual other than the person taking the samples.

Types of Testing Programs Within the NCDHIP

Official DHIR. Dairy Herd Improvement Registry. For registered cattle only; all requirements of the standard DHI must be met plus additional breed association requirements.

Official DHI. The standard plan of the program. An unbiased supervisor weighs, samples, and tests the milk from each cow on the dairyman's farm each month. Other management data is recorded as requested by the processing center program.

Unofficial DHI. The testing programs that do not meet the requirements or rules of the official plans. Usually the only

difference is that the herd owner records the milk weights and catches the samples for the butterfat test.

Owner-Sampler (OS). Supervisor delivers equipment to dairyman and records the barn sheets, but dairyman weighs and samples.

Weigh-A-Day-A-Month (WADAM). Dairyman has his own equipment, not necessarily approved for DHI and weighs and samples on a set day each month, records his own data, and mails it to the central lab.

Milk-Management (M-M). Dairyman or supervisor weighs and records the necessary data the same as the other program, but no butterfat samples are used.

Alternate AM-PM (AM-PM). Weighing and sampling only on one milking each month and alternating a.m. one month and p.m. the next. All information and procedures of the Official DHI Program are followed.

CHAPTER II

LITERATURE REVIEW

Introduction

The literature concerning the National Dairy Herd Improvement Program can be divided into four main categories: history, organizational structure, benefits offered to dairymen, and attitudes toward the program.

This review does not attempt to cover all of the many articles written in the past sixty-seven years but only a sufficient amount to develop the idea that the DHI Program is a recommended management tool that should be used by all dairymen, that the structure of the program is sound but sometimes loosely operated at the local association level, and that problems encountered or a lack of understanding of DHI Records can develop attitudes that will cause certain dairymen to not utilize the program.

History of DHI Program

The idea of a production testing program was borrowed from the dairymen of Denmark in 1905 by a group of six dairymen in Michigan (1, 4). This was the first attempt to form an organization, but milk records had been kept as early as 1871. Individual breeders collected production data on Dowager, a Holstein cow, and figured she

produced 12,681 pounds of milk during a lactation. A dairyman churned 511 pounds, 2 ounces of butter from a Jersey cow in 1854.

A Dairy Farming Investigation Section was formed in the U. S. Department of Agriculture in 1905. Dairy specialists were assigned from this department to work with the state colleges to develop dairy improvement projects. In 1917, the Dairy Farming Investigation Section was renamed as Dairy Extension and later dissolved in 1920 with the people being assigned to State Cooperative Extension Services.

The Smith-Lever Act of 1914 established the Cooperative Extension Service, which was to include the dairy recordkeeping associations in their program to provide demonstration results (1).

In 1922, the Dairy Extension Section of the American Dairy Science Association recommended changes to standardize the information from cow-testing associations.

The first unified rules were adapted in 1925 and have been standard for all associations since that time; however, they have been revised and updated as needed (5). For the first twenty years, only one testing plan was available, that being Official Records, where an impartial tester spending one day each month at the farm gathered the milk weights and samples from each individual cow. The tester stayed overnight with the dairyman, ran the Babcock test for butterfat, calculated records, and recorded the books.

In 1926, an Owner-Sampler (OS) plan was added to reduce the cost to dairymen not wanting official records. This plan, as well as the Weigh-A-Day-A-Month (WADAM) added in 1955 (1, 6), stimulated growth in the DHI Program. They allowed those dairymen not wanting the official records to have all the management information at 40 to 70 percent of

the cost of the standard plan.

The use of computers brought a big change in the Dairy Herd Improvement Program in the 1950's (1, 7). More data could be utilized and more extensive summaries could be provided which stimulated much interest in the program. Feed cost, income over feed cost, reproductive summaries, and genetic evaluations were developed rapidly.

Also, the use of central testing laboratories began to free the local supervisor of the task of testing butterfat samples (1, 6, 8, 9, 10). Many used their extra time in the promotion and building of the testing program.

The development of the Coordinating Group for the National Dairy Herd Improvement Program in 1965 (1, 6, 11, 12), along with the forming of the National DHIA, Inc., has added strength and continuity to the purpose and activities of the program.

The growth in the number of cows on the DHI Program is depicted in Figure 1.

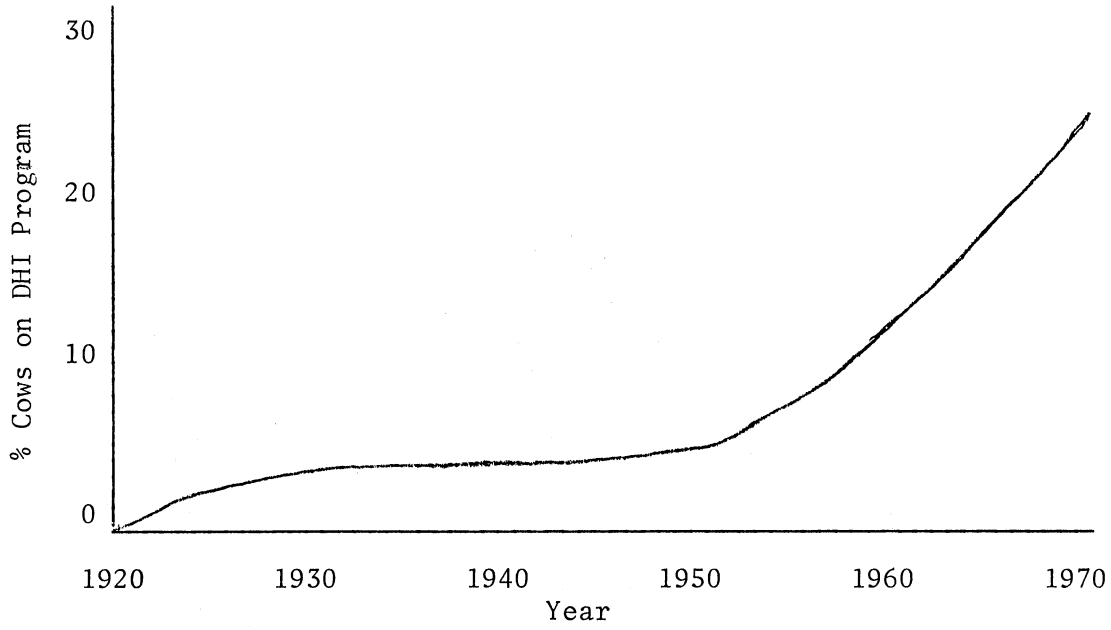

Figure 1. Increase of Cows on DHI Program

Organizational Structure of the DHI Program

A strong local Dairy Herd Improvement Association is the base of the entire testing program (1, 6). Local associations are formed by a group of dairymen that organize to provide an economical means of gathering information they can use in improving the production efficiency of their herds.

The business of the association is conducted by a board of directors. They establish and collect operating fees, employ supervisors, pay all expenses of the association, and are responsible for the membership following the rules and regulations of the National DHI Program. Local associations work closely with Extension personnel in educational and promotional activities.

The local DHIA Supervisor is the single most important person in

the program. He is the person that has contact with each member monthly and usually establishes the local image of DHI Records.

The individual dairyman is the real reason for the whole organization and program. He pays most of the costs of the program and is the main beneficiary. Each dairyman should accept the obligation to support the local association, cooperate with the supervisor by providing the data needed for the barn sheets each month, and to promote DHI to his neighbors.

State Dairy Herd Improvement Associations (1, 6) have been formed in many of the states. The state association can be a federation of the local associations or a direct membership. Their primary function is to coordinate the program of the local associations to bring about uniform enforcement of rules. The state association may contract for or establish a central testing laboratory for the butterfat testing (1, 6).

Many state associations employ personnel to manage and handle the business of the association. The size of the organization and the number of herds and cows on the DHI Program within a state usually determines the scope of the state association.

The National DHIA, Inc. (1, 6, 11) was formed in 1965 to coordinate the efforts of the state associations and involve dairymen in the policy-making decisions. There are 40 states that are members at the present time. The national association is responsible for the maintaining of a high standard of integrity by the enforcement of the uniform test rules and procedures. They help promote the production testing program and maintain a close working relationship with the U. S. Department of Agriculture, artificial breeding organizations,

the Purebred Dairy Cattle Association, and Dairy Extension personnel.

The Coordinating Group for the National Cooperative Dairy Herd Improvement Program is the governing body for the program (1, 5, 11). This group consists of representatives of all segments of the dairy industry: dairymen, Purebred Dairy Cattle Associations, National Associations of Artificial Breeders, Agriculture Research Service, Extension Service, and Record Processing Centers. The Coordinating Group formulates the policy, rules, and regulations relating to the conduct of the program. A Memorandum of Understanding between the state and federal agencies and down through each group of the dairymen associations provides the framework of the program. The Coordinating Group is the communications arm of the DHI to insure that all agencies are fully informed as to the problems and developments. This group has given strong encouragement for the formation of state associations and that all participating dairymen at all levels assume responsibilities relating to the business and service activities of the DHIP.

The Agriculture Research Service, USDA (1, 6) is responsible for the summarization and distribution of the sire and cow genetic evaluations. They provide the annual participation and statistical summaries of the program.

The Extension Service, through the state Extension Dairymen, are responsible for the educational aspects of the program. They also serve in an advisory capacity to local and state associations. They interpret rules and counsel with boards of directors, the central laboratory, and processing centers. The Extension Dairymen are

responsible for the training of DHIA Supervisors and helping the state association certify the production records.

The Extension Service, USDA, provides the liaison between the states, the ARS, and other organizations (1, 6).

Benefits Offered Dairymen

Strickler (13), a successful Holstein breeder of Kansas, told the Extension Dairymen at the 1973 National DHI Workshop of his attitude toward the DHIP:

> No program has done more to put the dairy industry in an enviable position of having a program that has contributed so much toward breeding a more economical dairy herd with which to work and prosper. It has paid off in the form of the breeds in which the whole dairy industry shares (p. 1).

Programs similar to the Dairy Herd Improvement Program are being adopted by other livestock specie groups. Dairying has advanced much more rapidly than other livestock species as a result of the DHI Program and genetic evaluation for cow index and sire summaries.

The genetic trend or improvement in production per cow per year of cows on DHI has averaged 120 pounds of milk per year since 1906 (1, 14).

The tremendous improvement of dairy cattle as a whole is a result of the propagation of superior breeding stock pointed out by the records program. From the early beginning of DHI, the Animal Research Branch has evaluated dairy bulls and published the sire summaries for all dairymen to use in sire selection. The fact that 48.6 percent of the dairy cows in the U. S. are bred artificially to take advantage of proven bulls attests to the interest in the program (15).

A dairy bull's genetic ability to transmit production or type

traits into his offspring is called Predicted Difference (PD) by the industry. The term was selected as being the most descriptive of what it actually measures. Predicted Difference is the best estimate of the superiority or inferiority of a sire's daughters measured as difference from their herdmates in breed average herds.

A dairy bull with zero Predicted Difference indicates that, when used in a herd with breed average production, about half of his daughters will be below and about half of his daughters will be above breed average production. This same sire can be expected to transmit somewhat less than breed average production to his future offspring because of genetic improvement of the dairy cow population over time.

The 1972 DHI Letter (16) reported that 25.9 percent of the sires in all breeds had a Predicted Difference for milk of less than zero. On the other hand, 37 percent of the bulls had a Predicted Difference for milk production of plus 400 pounds or more. Assuming a repeatability of 65 percent, the probability that these bulls will transmit above breed average production to their daughters is at least 90 percent. (Nine to one odds is a better gamble than most in agriculture.)

The sires of the five major dairy breeds with a Predicted Difference greater than plus 600 pounds of milk were also summarized for a dollar value in 1971 (16). The daughters of the 189 bulls were expected to produce milk valued at $43 per daughter per year higher than that of their breed average herdmates. This would mean a daughter staying in the herd for the national average of four years would produce $172 (4 x $43) more than herdmates from breed average bulls and also leave two daughters of higher genetic value.

The corresponding genetic value for the cow is called Estimated Average Transmitting Ability (EATA) (17). The formula used in figuring the cow's genetic value takes into consideration all the known information on paternal sisters, maternal sisters, dam, and daughters of the cow in question. When the EATA of the cow and the PD of the bull are used for maximum gain in genetic value, the results in some herds have been phenomenal.

A research team at Iowa State University (18) selected a group of 60 Holstein heifers for a research project using EATA and PD of sire and dam to predict daughters' future productions. The 60 heifers were purchased from 30 Iowa herds, buying the lowest and highest heifer it was possible to purchase based on genetic value from each herd. At the end of the first lactation, the average production of the two groups only showed an 18 pound per cow difference from expected for the high group and 15 pounds difference for the low group. This precision is not the norm, but it does indicate the value of DHI Records in the breeding of dairy cattle.

The intent of the early Dairy Herd Improvement Program was to provide production records for genetic improvement of dairy cattle. However, studies of herds using the DHI Records indicated that overall environment and management had greater influence on production than genetics. Corley and Heizen (19) reported that the level of milk production is determined as 30 percent heredity and 70 percent environmental. They conducted experiments to determine the management factors that had the most influence on total fat yield per cow. Rating management on a scale of Poor, Fair, Good, or Excellent, they found that, as the management level moved up one grade, the

three management factors of milking practices, feeding practices, and calving interval combined to increase fat yield by 89 pounds per cow per year.

Computer processing of the Dairy Herd Improvement Records has allowed many more management factors to be incorporated into the program. Crandell of the DHI Computing Service, Provo, Utah, (7), pioneered the use of computers for production records, and his program still leads the field in providing option programs to meet dairymen's needs.

There are 12 computing centers for the United States with each offering the same basic milk and fat yield data in the format suggested by USDA-ARS. All have a variety of other information designed for management decisions to improve the feeding, breeding, or genetic evaluation of the herd.

The breeding data available in most of the DHI systems is in the form of options for current use of herd summaries. Reproduction data has been termed by some as being more important to the profitability of dairying than high production. A dairy cow must reproduce before she has a chance to produce. C. L. Pelissier (20) reported an estimated loss of $539,948,126 due to low fertility of dairy herds in the United States in 1970. This figure was the combined total estimate of losses due to reduced milk production and number of calves due to wide calving intervals, cow replacement costs, veterinary services and medicine, and additional breeding fees. His study of the large herds of California indicated that low herd fertility is primarily due to failure to observe estrus cycles and that dairymen should concentrate on the problem of improving

breeding efficiency more heavily and to use a functional breeding record system.

The processing centers at Utah, Iowa, and North Carolina have each provided their versions of a functional breeding record system. Britt and Ulburg (21) report that dairymen using the Herd Reproductive Status System (HRS) of the North Carolina Center have increased production from 33 pounds of milk per cow per day to 44 pounds as the HRS scale moved from 58 to 75 over a nine-year period. In this system, the HRS is an index that indicates the number of days open and the number of breeding problem cows that are in the herd in relation to total herd size.

The Iowa Computing Center developed a series of breeding record forms for on-the-farm use that would complement the DHI printed records. These breeding record sheets include a pre-printed wall chart breeding calendar and a companion estrus cycle calendar. These are provided on a request basis, and approximately 60 percent of the dairymen using the Iowa center are requesting them.

Also, the Iowa center has developed a series of management options (Appendix A) that provide a monthly pocket-sized list of cows to breed, cows to turn dry, cows to pregnancy check, cows to calve, and cows to lead feed-due. Oklahoma dairymen are leading the eight-state area in use of these options. The June, 1974, association summary for Oklahoma (22) showed 81 dairies with 8,179 cows enrolled in the option programs. A study is currently being conducted to determine the effect of the option programs on the management of DHI herds.

The improvement of dairy cattle is a continuous effort. The

mating of plus proven bulls to the top cows will normally result in higher producing progeny; however, the cycle takes four to five years. One of the complaints against the Dairy Herd Improvement Program is that the immediate returns are not worth the cost. The DHI Letters report that herds on DHI produced 4100 pounds of milk more than those not on the program during 1973 (1, 2). This difference in milk, even though a result of cumulative efforts in past years, shows the use of the records program to be profitable.

Fryman and Salisbury (23) studied the effect of continuous DHI testing for a ten-year period. They used 21 farms with ten or more years on DHI paired with 21 non-DHI farms The farms were paired on crop returns per acre, labor cost per cow, and the number of cows milked so that net earnings per acre would reflect only those items involving DHI and the dairy herd. There was a significant difference at the $P<.01$ level in the following variables:

TABLE I

ECONOMIC COMPARISON OF DHI-NON DHI FARMS

Comparison Items	DHI Farms		Non-DHI Farms
Rate earned on investment	14.74	(%)	9.72
Net earnings per acre	$30.21		$19.11
Returns/$100 feed (dairy cattle)	$178.00		$162.00
Operator's earnings	$4874.00		$3031.00
Average butterfat/cow	337	(pounds)	277
Average milk/cow	9320	(pounds)	7872
Return above feed cost/cow	$326.00		$253.00
Feed cost/cow	$183.00		$158.00

This study was completed in 1945; however, the results would be comparable today as has been proven by McCaffree (24).

McCaffree (24) reported in 1972 that farms with ten years of continuous use of Dairy Herd Improvement Records increased the net income per cow by $65.24 in 80-cow herds. This study also shows that the first year of using the DHI management tools resulted in a net increase of $6.52 per cow.

Attitudes Toward DHI Program

The literature cited to this point has all been in favor of dairymen utilizing the DHI Program. Why, then, after sixty-nine years of having a program recommended, do nearly 75 percent of the dairymen not participate? The attitudes of dairymen, DHIA Supervisors, and Extension personnel play an important role in the acceptance of the program.

There is not as much literature stating "why not" as there is "why to". However, the author has had fifteen years of experience as a dairyman using DHI Records, several years as a member, board member, or officer in local DHI Associations, as well as six years as Extension Dairyman responsible for the Dairy Herd Improvement Program in Oklahoma. There are several factors that may influence attitudes toward the use of the program. These factors are: supervisor personnel, personality conflicts, rules and regulations, complexity of the records, a lack of knowledge of how to use the records, not accepting the validity of the records, butterfat test variations, and equipment problems.

The finding, hiring, and keeping of a good supervisor is the

paramount problem of the local DHI Association. Stout (25) reported that there was a 76 percent turnover in supervisors in the local DHI Associations of Oklahoma in 1973. The supervisors cited several reasons for leaving, but the most prevalent was unsatisfactory working conditions. The split-shift of being at the farm for milking at night and morning kept supervisors away from their families at regular meal times and meant a long working day. Driving time and expense was the second factor causing supervisor turnover. In Oklahoma, supervisors drive two round trips to the dairies, one for each milking on the day of sampling, which totals an average in excess of 100 miles per dairy.

Personality conflicts with certain dairymen and the idea of always being wrong if the records did not please the dairymen were also cited. The following poem written by an anonymous DHI Supervisor in Iowa under the pen name of Ben A. Testing (26) brings out some of the dairymen-supervisor conflicts:

THE ONE THAT ALWAYS GETS AWAY

Will you ever find him
This perfect man to test
You've got a lot of company
I wish "you-all" the best.

Now you will want a tester
Who always gives his all;
Not one who starts in springtime
And finishes in fall!

He always comes ahead of time
So he can help you hay;
He'll even mind the children
Or haul manure away!

And if your day's been awful
You can really bend his ear.
He'll bring along a crying towel
And even shed a tear!

When you've had trouble with the herd
His shoulders will be strong,
You can blame it all on him,
Though it may be you who's wrong!

His honesty is perfect
Oh, he'll fudge a bit for you
He has no awful vices
Though you're allowed a few!

He hears above the milker,
He speaks so you can hear,
He never riles up the cows,
- Don't even know he's near!

If you are late in rising
He'll milk the entire herd;
Or if the juice has faulted
He'll help without a word.

He'll work a week on just your book
He never makes a slip;
He majored in mathematics
Took a course in penmanship.

He'll break a track through deepest snow
Though he has to shovel in;
And if your cows are out of feed
He'll grind into the bin!

He'll work for next to nothing
You couldn't call him lazy;
I know just the place for him,
THIS GUY HE MUST BE CRAZY!!!

The equipment used by the supervisors is the property of and is to be maintained by the local association. However, it is easy for the dairymen to blame the supervisors if equipment does not work at his farm. The official DHI rules (5, 27) state that metering devices must be recalibrated at least once each year. Olsen (28) of Wisconsin found that 41.7 percent of the dairymen who quit testing during 1973 were unsatisfied with the accuracy of the milk meters. Mudge (29) and Starkey (30) report that lack of sufficient meters to use in large herds or to add a new supervisor within an association has stymied the

growth of the DHI Program. Stout (25) reported to the Oklahoma DHIA, Inc. Board of Directors in 1973 that over half of the meters in Oklahoma were fifteen years old or older and that three associations were borrowing the state office equipment because they were reluctant to assess their membership for new meters.

The lack of understanding of forms and knowledge of the program was listed as an influencing factor causing 60 percent of the dropouts from the DHI Program in a Wisconsin study in 1973 (28). Murriel (7) reports that DHI Records may contain more information than any one dairyman needs because it is designed for the benefit of all dairymen. An individual dairyman must learn to manage the figures and papers well in order to get the information he needs, and let the rest fall. The requirements of and use of different information by various dairymen is an indication of the variation in the type of management in the dairy industry and presents a challenge to the processing centers to provide options to meet the needs of the industry. Processing centers use dairymen advisory groups as well as the Extension Dairymen of the states served to plan their programs for the benefit of the most dairymen (7, 31).

The butterfat content of each individual cow's milk is the second most important parameter in the DHI Program; however, it is also the variable that will have the most fluctuation. Putman (32) reports fluctuation in butterfat percentage from a low of 3.0 percent to a high of 5.1 percent in an individual cow's milk tested each milking during a five-day period. Table II lists the butterfat percentage of consecutive milkings for a five-day period on five cows of the Penn State herd. In the same study, the butterfat percentage of the Penn State

University dairy herd milk was reported for a thirty-day period, Table III. There was fluctuation from 3.4 percent to 4.6 percent in the daily butterfat test of the milk during the month.

TABLE II

FIVE-DAY INDIVIDUAL COW BUTTERFAT VARIATION

Cow	Milking	Day 1	Day 2	Day 3	Day 4	Day 5
A	AM	4.4	4.0	4.0	4.3	4.6
	PM	4.5	3.8	3.5	4.3	4.2
B	AM	4.5	3.5	4.6	4.2	4.8
	PM	4.5	3.8	3.5	4.6	3.8
C	AM	3.2	5.0	4.2	5.2	4.5
	PM	4.2	4.6	3.7	5.3	4.0
D	AM	3.2	4.2	3.7	5.0	4.8
	PM	3.0	4.5	4.0	4.5	5.1
E	AM	3.9	3.5	4.2	4.7	3.4
	PM	4.5	4.7	4.4	4.8	4.8

TABLE III

DAILY BUTTERFAT VARIATION OF PENN STATE HERD

DATE	%	DATE	%	DATE	%
1	4.1	11	4.3	21	4.3
2	4.0	12	3.9	22	3.6
3	4.0	13	3.9	23	3.7
4	3.5	14	4.1	24	3.6
5	3.7	15	3.9	25	4.0
6	4.3	16	3.7	26	3.4
7	4.0	17	3.9	27	4.3
8	3.9	18	3.9	28	4.0
9	4.6	19	4.2	29	4.0
10	4.1	20	3.9	30	3.8

Dairymen are reluctant to accept variation in the butterfat percentage as being actual. When the DHI butterfat test is lower than the plant butterfat test, the supervisor is wrong, and, likewise, if the plant test is lower, the plant tester is wrong. Very few dairymen accept the fact that the two butterfat tests should not necessarily match. DHI uses a three-ounce sample from each individual cow representing a twenty-four hour period weighted by the pounds of milk from each cow whereas most milk plant tests use a five-ounce sample to represent a two-day bulk tank pick-up for that producer. There is much room for sampling error in each test, but an error in an individual cow's sample in DHI would have less effect on the total outcome. Olsen(28) reported that only 0.8 of 1 percent of the dairies that quit testing in Wisconsin during 1974 started the program with the intent to use the program as a check on the milk plant butterfat test.

However, 64.7 percent of the same group reported butterfat test variation was an influencing factor in causing them to quit the program.

The use of central testing laboratories has been a significant advancement in the history of DHI testing. The first lab was started in 1955 (8) in California. Within three months, dairymen were reporting more accurate records, less butterfat test variation, and the associations using the lab increased by 5,000 cows. The Milko-Tester, which uses a colorimetric measure, has reduced the human error. The use of central laboratories has removed the supervisor from being blamed each month for test variation. The supervisor also has free time to promote the program and to add herds to the Owner-Sampler or AM-PM testing plans (8, 9, 10).

Since the Dairy Herd Improvement Program is an Extension sponsored program, what are the implications of only having a 25 percent usage? Olsen's survey (28) showed that, while the dairymen were on the DHI Program, 44.3 percent had no contact with their county agent, and 38.2 percent very little contact with their county agent. Only 66.3 percent of the dairymen considered the County Extension office as a place they could get help on using the DHI information. Of the 831 dairymen that quit DHIA, 37.4 percent had never attended a meeting and 11.4 percent did not attend the last annual meeting.

Brown and co-workers (33) reported that 21 percent of the dairymen in Tioga County, Pennsylvania, were on the DHI Program, and that 22 percent of the dairymen had been visited by the county agent during the past year. However, there was not a statistical analysis run to determine if the two variables were correlated.

Summary

The Dairy Herd Improvement Program has developed over a period of years to meet the needs of an ever-changing dairy industry. Dairymen that make the maximum use of the information available through the program for management decisions will reap the benefits of improved cattle and net income. The Extension Service, Processing Centers, and DHI Associations must continuously be alert to the needs of the program and change or adapt accordingly. Strickler (13) closed his remarks to the 1973 National DHI Workshop with, "The greatest challenge has been and will be to change the attitude of non-participating dairymen to recognize their need for production records" (p. 3).

CHAPTER III

DESIGN AND METHODOLOGY

Introduction

This study was undertaken to determine opinions of dairymen concerning the acceptance of the Dairy Herd Improvement Program and priorities placed on information received through the program. This chapter is divided into four sections that explain the population, the design, the instruments, and the analysis used in meeting the purpose and objectives of the study.

Description of Population

The population of dairy farms in Oklahoma during the time of this study was estimated at approximately 1600. Of this number, approximately 1300 were members of the Associated Milk Producers, Inc., 84 were producers for Colvert Milk Plant, Ardmore, and the remaining dairymen are producers for the 15 other handlers in Oklahoma not on a full service contract to AMPI, Inc. Approximately 22 percent, or 356, of the dairy herds were enrolled in the Dairy Herd Improvement Records Program.

If the information eollected was to meet the criteria set by the objectives of this study, the population would have to be representative of:

a. dairymen presently enrolled in the DHI Records Program,

b. dairymen who had been on the DHI Records Program but were not enrolled at the time of the survey, and

c. those dairymen who have not been enrolled in the DHI Records Program up to the time of this survey.

To satisfy these three criteria, the dairymen enrolled in the DHI Records Program at the time of each survey were considered the population for those questions requiring DHIA membership to give a valid answer. The membership of AMPI, Inc. within the boundaries of Oklahoma was set as the population for all other questions. The Oklahoma Division of AMPI's mailing list numbered 991 and Oklahoma dairymen who sold milk through the North Texas Division of AMPI totaled 319. However, family partnerships, which included addresses for each family member, reduced the 1310 names to a total of approximately 1250 dairy farms. By selecting the membership of AMPI, Inc. as the sample population, approximately 83 percent of the total dairy population of Oklahoma was included in this study.

The distribution of the dairymen receiving the mail survey is listed in Table IV.

TABLE IV

DHI PARTICIPATION STATUS
BY AMPI DISTRICT

District	Total Dairymen	Participation Status: On DHI N	On DHI %	Off DHI N	Off DHI %	Never On DHI N	Never On DHI %
District 1	76	15	19.7	9	11.9	52	68.4
District 2	61	13	21.3	6	9.9	42	68.8
District 3	75	9	12.0	12	16.0	54	72.0
District 4	63	7	11.1	12	19.1	44	69.8
District 5	66	1	1.5	3	4.6	62	93.9
District 6	81	28	34.6	13	16.0	40	49.4
District 7	43	9	20.9	3	7.0	31	72.1
District 8	55	16	29.1	16	29.1	23	41.8
District 9	40	20	50.0	5	12.5	15	37.5
District 10	35	11	31.4	4	11.5	20	57.1
District 11	57	15	26.3	7	12.3	35	61.4
District 12	37	13	35.1	3	8.1	21	56.8
District 13	31	10	32.25	1	3.25	20	64.5
District 14	43	6	13.9	7	16.3	30	69.8
District 15	14	3	21.4	2	14.3	9	64.3
District 16	103	28	27.2	16	15.5	59	57.3
District 17	81	9	9.9	3	4.9	69	85.2
District 18	30	3	10.0	7	23.3	20	66.7
Total	991 Okla.	216	21.79	129	13.02	646	65.19
	319 Texas	64		28		227	
Total	1310	280		157		873	
% based on 1250 farms			22.4		12.56		69.84
% based on 1310 members			21.37		11.98		66.64

The AMPI mailing list was compared to the current list of dairymen on the DHI Records Program to determine those now on DHI. Those

dairymen that had discontinued DHI or had never been on the program were determined by comparing the AMPI mailing list to the County Herd Code list containing all dairymen on the DHI Program since July, 1960.

Design of the Study

Because the major focus of this study was to determine opinions of dairymen toward the various aspects of the DHI Program, this dictated the design to be that of using an opinion scale. Four types of opinion or attitude scales are listed by Ary (34): (1) summated rating scales (Likert scales), (2) equal appearing intervals (Thurstone scales), (3) cumulative scales (Gutman scales), and (4) semantic differential scales.

The Likert-type scale was selected as being the most appropriate scale for determining dairymen's opinions toward the DHI Program. The Likert-type scale was also used to determine the amount of influence the various components of the DHI Records had on dairymen's management decisions. The means of the Likert-type scale were used to put the factors in rank order of use or preference.

To meet the objectives of this study within the time limits and work assignments of the author, two survey periods were established. The survey dealing with determining a rank order of use, preference, or priorities of content for the DHI Records was administered by the investigator at the local DHI Association meetings held between October 15, 1974 and March 1, 1975.

The timing of such a study using mail surveys with the activities of the people being sampled was deemed important. A letter requiring

considerable time and thought for the reply would be set aside if received during the periods of busy planting, harvesting, or fair seasons. The mail survey was sent February 6, 1976, to all Oklahoma members of the Associated Milk Producers, Inc. Those surveys returned by March 3, 1976, were tabulated and incorporated into the results reported in this study.

To ensure the maximum response to the mail survey, the AMPI Sunday morning radio program was used to encourage dairymen to return their surveys. A general discussion between Gene Neil, the AMPI Program Director, and the author was aired on Sunday, February 8, 1976. The discussion covered the objective of the study from the standpoint of future improvement in the DHI Program to meet dairymen's needs. Followup announcements were broadcast on the two following Sundays, February 15 and February 22. Also, announcements were made at the six local DHI Association meetings held during the month of February requesting a quick response.

The designing of survey instruments for ease of tabulation was felt to be highly essential for the size of population and possible respondents included in this study. The various sections of the survey instrument were designed for ease of keypunching for computer analysis. Each question was numbered in such a way that the number represented the card number and the column in which that answer was to be punched on a computer card.

The survey sections were color coded for ease in determining to which group, based on DHI Records Program participation status, each returned survey belonged. A white booklet was used for general information and statements that all dairymen responded to. Three

one-page inserts were used to determine to which group each dairyman belonged; the green page to be used by dairymen presently on DHI, the yellow page to be completed by dairymen that had discontinued DHI, and the pink page to be completed by dairymen that have not been a member of the DHI Program.

Development of the Instruments Used

The instruments used to determine opinions toward the Dairy Herd Improvement Program were developed by the author with considerable assistance from the staff members of the Agricultural Education Department, the Dairy and Extension staff members of the Department of Animal Sciences and Industry, dairy production students, and student employees of the Oklahoma DHIA milk-testing lab.

The five steps suggested by Ary (34) concerning Likert-type scales were followed with slight modifications in construction of the test instruments. The steps were:

1. Collect a large number of favorable and unfavorable statements regarding the attitude object. Statements were selected from the collection of statements dairymen have given this author over the past eight years as to why they start, discontinue, or have no desire to join the DHI Records Program.

2. Select from these approximately equal numbers of favorable and unfavorable statements.

3. Administer these statements to a number of individuals, asking them to indicate their opinions regarding each statement by determining their degree of acceptance as none, little, some, much, or very much with each statement. Dairy production students, student

employees, extension co-workers, and dairymen were used to test the instruments.

4. The score computation was modified from +2, +1, 0, -1, -2 as usually used on Likert-type scales to a continuum of 0, 1, 2, 3, 4. The same numerical values were assigned to the five categories in the general information section. This modification allowed all tabulations to be similar. This modification also allowed the use of the means for each statement to determine a rank order of preference when it was the desired product.

5. Carry out an item analysis to select those items that yield the best discrimination.

The surveys were designed to measure opinions of dairymen, to determine the rank order of information desired in the DHI Progran, and to determine the opinions of dairymen toward various phases of the Dairy Herd Improvement Program. The various surveys used are shown in Appendix B.

Statistical Analysis

The data collected in this study were compiled and tabulated in a manner designed to disclose findings related to the purpose and objectives of the study. The respondents were analyzed in total and also as three separate groups of:

a. those dairymen who were currently on the DHI Program,
b. those dairymen who had been on the DHI Program in the past, but were not enrolled at the time of the survey, and
c. those dairymen who had never been on the DHI Program.

A Likert-type scale was modified so that the mean of answers to each question would appropriately describe the level of use or agreement for that statement. A continuum from "none" through "very much" was the Likert-type scale used. To permit statistical treatment of data, numerical values were assigned to the response categories in the following pattern:

Response Categories	Numerical Value	Range of Actual Limits for Categories
None	0	0.0 - 0.49
Little	1	0.5 - 1.49
Some	2	1.5 - 2.49
Much	3	2.5 - 3.49
Very much	4	3.5 - 4.00

The establishment of the foregoing pattern facilitated interpretation of the findings. For example, if the mean numerical response of the dairymen groups to a certain question was 3.54, 2.6, and 1.4, their responses would be translated to mean their acceptance of those statements would be "very much", "much", and "little", respectively. The mean of the response of each of the three groups, those currently on the DHI Program, those who have discontinued the DHI Program, and those never using the program, would be a measure of their opinion of the program.

The SAS Program (Statistical-Analysis-System) was used to compute the statistical analysis. Means were computed for all questions in total as well as dividing the respondents into the three groups. Frequency distribution tables giving the percentage of respondents of each group that answered "none" through "very much" were constructed

for each question to aid in clarifying the interpretation of the means.

An analysis of variance was computed on each of the commonly answered questions by the three groups of dairymen to determine if there was a significant difference between the responses of the three groups. The analysis of variance is a statistical method of testing for significant differences between means of two or more groups. Popham (35) states:

> If the variance of the artificially combined total group is approximately the same as the average variance of the separate subgroups, then there exists no significant difference between the means of the separate groups. If on the other hand, the variance of the artificially combined total group is considerably larger than the average variance of the separate subgroups, then a significant mean difference exists between two or more of the subgroups (p. 167).

Significant difference between the mean answers in this study indicates a differing opinion about various aspects of the DHI Program by the three dairymen groups.

CHAPTER IV

ANALYSIS AND INTERPRETATION OF RESULTS

The primary purpose of this study was to determine opinions of dairymen toward various aspects of the Dairy Herd Improvement Records Program and to determine the level of influence the component parts of DHI Records had on management decisions.

To accomplish the purpose of this study, two survey instruments were designed to meet the following specific objectives:

a. to determine dairymen's opinions toward the DHI Records Program,

b. to determine dairymen's opinions toward the local DHIA Supervisor and Association,

c. to determine if the addition and use of a central testing laboratory would improve dairymen's acceptance and validity of DHI Records,

d. to determine dairymen's acceptance of the various types of programs now available through DHI, and

e. to determine in order the priorities and the type of management information that dairymen want in DHI Records.

The survey to determine opinions of the various aspects of the DHI Program was conducted with a Likert-type scale questionnaire distributed and collected by mail. The returned surveys were divided into three groups according to the dairymen's participation status in

the Dairy Herd Improvement Records Program:

Group I - those dairymen currently enrolled in the program.

Group II - those dairymen who had been on the program, but were not currently enrolled.

Group III - those dairymen who had never been on the DHI Program.

Distribution tables, means, and an analysis of variance were the statistical methods employed to test the response received. The F value of the analysis of variance at the $P<.01$ level was the determining factor as to accepting or rejecting the hypothesis that the opinions of the three groups of dairymen were different.

Dairymen's use of DHI Records information in making management decisions was determined by a Likert-type scale instrument administered personally by the author at local DHI Association meetings. The various types of information were scored by dairymen according to the amount of influence each component had on their management decisions. Summation and means of scores for each item were used to develop a rank order of the level of influence each component of DHI Records had on dairymen's management decisions.

Findings of the Study

The findings of the study are presented in the order of general opinions among the dairymen groups of the DHI Records Program, the opinions among the three groups concerning the DHI Association and Supervisor, the opinions of the three dairymen groups concerning the DHI Program plans and optional segments, and the amount of influence various components of the records had on dairymen's management decisions.

To facilitate the understanding of the information presented in this chapter, a brief discussion concerning the numerical values and tabulations is in order. Each section of the two surveys was designed to use a Likert-type scale which was a continuum from "none" through "very much". Numerical values were assigned for ease of tabulation to each of the response categories in the following pattern:

Response Categories	Numerical Value	Range of Actual Limits for Categories
None	0	0.0 - 0.49
Little	1	0.5 - 1.49
Some	2	1.5 - 2.49
Much	3	2.5 - 3.49
Very Much	4	3.5 - 4.00

Where items of general information were requested, all questions were designed with a five-part range of answers so the same numerical values of 0 to 4 were assigned. The mean scores, the percent of non-respondents, and the distribution of the responses by the various categories tabulated in the weighted mean are presented in each table.

The mean responses of the three groups of dairymen were tested statistically by the analysis of variance. An F value greater than 3.04 for the $P<.05$ level and 4.71 at the $P<.01$ level was significant.

General Information About the Population

The mailed survey (Appendix B) was sent to 1250 dairy farms in Oklahoma which represented the 1310 members of the Oklahoma Division of Associated Milk Producers, Inc. This group of dairymen, by their

own answers and also by comparing the mailing list to the DHI current and past membership list, were divided into the three groups according to DHI participation.

There were 151, 53.9 percent, of the 280 members of AMPI on the Dairy Herd Improvement Records Program (Group I) who responded to the survey. Of the producers who had discontinued the DHI Program (Group II), 48 of 157 returned the questionnaire for a response rate of 30.5 percent. Only 9.5 percent (83) of the 873 dairymen who had never been on the DHI Program returned the survey. The total response from the 1250 farms was 282, or 22.6 percent. Figure 2 is an Oklahoma map showing the counties of each AMPI District. Table V lists the total number of dairymen, the distribution of dairymen by DHI participation status, and the percentage of returns of each status group by AMPI Districts. District 7 had the lowest percentage return with 11.6 percent, while District 10 had the highest return of surveys with 37.1 percent.

The age group of the dairymen responding and the length of time they plan to continue in the dairy business looks promising for Oklahoma. The age range by groups is listed in Table VI.

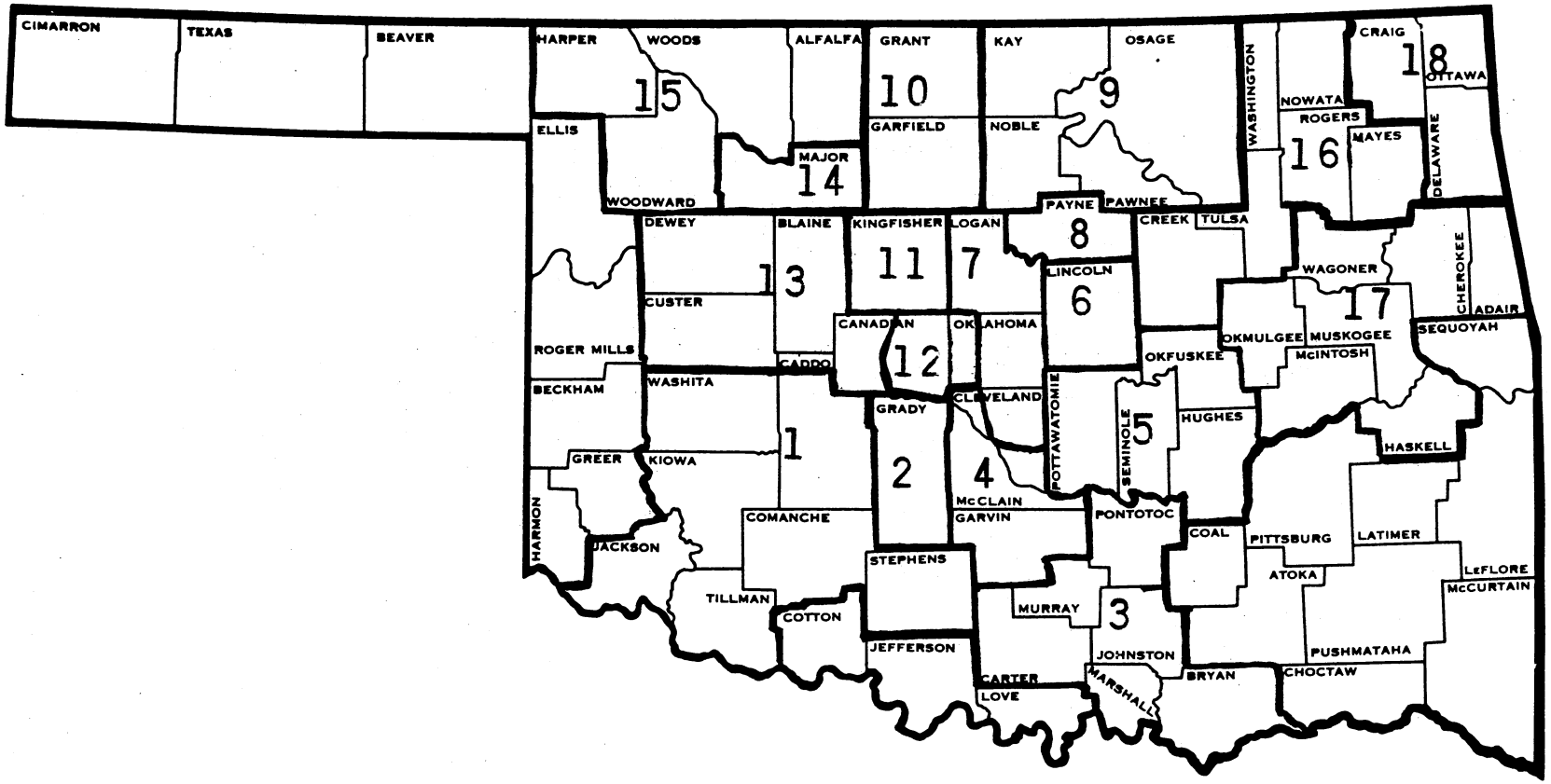

Figure 2. Oklahoma AMPI Districts

TABLE V

SURVEY RESPONSE BY AMPI DISTRICTS

District	Total Members	Response Level By Participation Group: Group I On DHI Sent	Group I On DHI Ret.	Group I On DHI % Ret.	Group II Off DHI Sent	Group II Off DHI Ret.	Group II Off DHI % Ret.	Group III Never On DHI Sent	Group III Never On DHI Ret.	Group III Never On DHI % Ret.	Total Ret.	% Ret.
1	76	15	6	40.0	9	2	22.2	52	8	15.4	16	21.1
2	61	13	7	53.8	6	2	33.3	42	3	7.1	12	19.7
3	75	9	5	55.6	12	2	16.7	54	5	9.3	12	16.0
4	63	7	4	57.1	12	2	16.7	44	4	9.1	10	15.9
5	66	1	1	100.0	3	1	33.3	62	8	12.9	10	15.2
6	81	28	18	64.3	13	1	7.7	40	5	12.5	24	29.6
7	43	9	3	33.3	3	1	33.3	31	1	3.2	5	11.6
8	55	16	11	68.8	16	6	37.6	23	1	4.3	18	32.7
9	40	20	10	50.0	5	3	60.0	15	1	6.7	14	35.0
10	35	11	8	72.7	4	3	75.0	20	2	10.0	13	37.1
11	57	15	11	73.3	7	3	42.8	35	5	14.3	19	33.3
12	37	13	7	53.8	3	0	0.0	21	1	4.8	8	21.7
13	31	10	4	40.0	1	0	0.0	20	2	10.0	6	19.4
14	43	6	4	66.7	7	2	28.6	30	4	13.3	10	23.3
15	14	3	2	66.7	2	2	100.0	9	1	11.1	5	35.8
16	103	28	13	46.4	16	7	43.8	59	6	10.2	26	25.2
17	81	9	6	66.7	3	2	66.7	69	15	21.7	23	28.4
18	30	3	2	66.7	7	3	42.9	20	4	20.0	9	30.0
Texas	319	64	27	42.2	28	3	10.7	227	12	5.3	42	13.2
	1310*	280	151	53.9%	157	48	30.5%	873	83	9.5%	282	22.6%

* 1310 members representing 1250 farms.

TABLE VI

AGE RANGE OF RESPONDENTS

Dairymen Group*	Distribution by Age Range									
	<30		31-40		41-50		51-60		>60	
	N	%	N	%	N	%	N	%	N	%
I	25	16.7	47	31.5	43	28.8	29	19.4	5	3.3
II	4	8.5	15	31.9	16	34.0	9	19.1	3	6.2
III	22	26.8	27	32.9	16	19.5	14	17.1	3	3.6

* Group I - Dairymen who are currently on DHI
Group II - Dairymen who have discontinued DHI
Group III - Dairymen who have never been on DHI

In each group, approximately 75 to 80 percent of the respondents were less than 50 years old. Group III had 59.7 percent (49) of the respondents who were less than 40 years old. The average age range for the three groups was 41-50 years for Groups I and II, and 31-40 for Group III. The age levels coincide favorably with the means of 16.25, 16.37, and 14.9 for the number of years Groups I, II, and III, respectively, indicated they wanted to continue in the dairy business.

The herds of dairymen using DHI Records were larger than those of Groups II or III. Twenty-five percent of Group I herds were over 110 cows while only 14.6 percent of Group II and 11.0 percent of Group III herds numbered more than 110 cows. Table VII lists the size of respondents' herds.

TABLE VII

RESPONDENTS' HERD SIZE

Dairymen Group*	Distribution by Herd Size									
	<49		50-79		80-109		110-149		>150	
	N	%	N	%	N	%	N	%	N	%
I	28	18.9	51	34.4	31	20.9	28	18.9	10	6.7
II	13	27.1	18	37.5	10	20.8	5	10.4	2	4.2
III	21	26.3	36	45.0	14	17.5	7	8.5	2	2.5

* Group I - Dairymen who are currently on DHI
Group II - Dairymen who have discontinued DHI
Group III - Dairymen who have never been on DHI

The actual size for herds on the DHI Records Program averaged 85 cows as compared to a 72-cow herd average for Group II and a 68-cow herd size for Group III.

The effect of herd size was also reflected in the area of hired labor. Forty-three percent of the dairies of Group I used some hired labor with 4.6 percent being mostly all hired labor. Only 22.9 percent and 24.1 percent of the dairies in Group II and Group III utilized labor other than that of the owner and family.

Favorable opinions toward and use of various recommended herd improvement practices may also be an indication of the acceptance of Dairy Herd Improvement Records. A high level of milk production is achieved only through continued use of sound management and attention

to all details. Table VIII lists the production level of respondents' herds.

TABLE VIII

PRODUCTION LEVEL OF RESPONDENTS' HERDS

Dairymen Group*	Distribution by Production Level									
	<9000		9000-10900		11000-12900		13000-14900		>15000	
	N	%	N	%	N	%	N	%	N	%
I	0	0.0	17	11.4	32	21.5	57	38.3	43	28.9
II	2	4.4	6	13.3	21	46.6	12	26.7	4	8.9
III	16	22.5	13	18.3	28	39.4	11	15.5	3	4.2

* Group I - Dairymen who are currently on DHI
Group II - Dairymen who have discontinued DHI
Group III - Dairymen who have never been on DHI

Group I dairymen must have been doing some things correctly, having 100 of the 152 (67.1 percent) herds with production levels over 13000 pounds. Only 35.6 percent of the Group II dairymen and 19.7 percent of the Group III dairymen estimated milk production to be above 13000 pounds.

Another indication that perhaps using DHI Records will improve management efficiency could possibly be the finding that 40.8 percent of dairymen who had never been on the program estimated the production

level of their herds at less than 11000 pounds of milk. Only 17.7 percent of dairymen who had discontinued DHI or 11.4 percent of those using DHI Records reported production less than 11000 pounds.

The breeding program selected by a dairyman determines, to a great extent, the quality of his future herd. The use of proven bulls, by AI, with high levels of Predicted Difference for the traits desired, has been recommended as a herd improvement practice for twenty-five years. Table IX lists the breeding programs followed by the survey respondents.

TABLE IX

TYPES OF BREEDING PROGRAMS
FOLLOWED BY RESPONDENTS

Dairymen Group*	Distribution by Types of Breeding Programs									
	All Nat		75% Nat 25% AI		50% Nat 50% AI		25% Nat 75% AI		All AI	
	N	%	N	%	N	%	N	%	N	%
Group I	18	11.9	13	8.6	19	12.5	54	35.7	47	31.1
Group II	13	27.0	3	6.2	9	18.7	11	22.9	12	25.0
Group III	47	58.7	4	5.0	5	6.2	9	11.2	15	18.7

* Group I - Dairymen currently on DHI
Group II - Dairymen who have discontinued DHI
Group III - Dairymen who have never been on DHI

Approximately 67 percent of the dairymen of Group I bred over 75 percent of their herds by AI. Of the Group II dairymen, 27 percent used an all natural service breeding program and 47.9 percent used 25% natural - 75% AI. Only 30 percent of the Group III dairymen used a strong AI breeding program while 58.7 percent used an all natural service breeding program.

There was less difference among the dairymen groups concerning the percent of herd replacements raised than other selected factors.

Table X indicates that each group of dairymen raised a high percent of the replacement heifers needed for their herds. In the category of raising over 80 percent was Group I with 78.5 percent, Group II with 69.5 percent, and Group III with 71.6 percent.

TABLE X

PERCENT OF HERD REPLACEMENTS RAISED BY RESPONDENTS

Dairymen Group*	50%		51-60%		61-70%		71-80%		80%	
	N	%	N	%	N	%	N	%	N	%
Group I	10	6.7	8	5.4	4	2.6	10	6.7	117	78.5
Group II	6	13.0	1	2.2	3	6.5	4	8.7	32	69.5
Group III	2	14.8	4	4.9	2	2.7	5	6.2	58	71.6

* Group I - Dairymen currently on DHI
Group II - Dairymen who have discontinued DHI
Group III - Dairymen who have never been on DHI

The question was asked, "What is the source of purchased herd replacements?" The response, since the dairymen are spending dollars to back up their opinions, is a reflection of the opinions that dairymen have of DHI Records. These are listed in Table XI.

TABLE XI

SOURCE OF PURCHASED DAIRY HERD REPLACEMENTS

Dairymen Group*	Distribution by Source of Purchase							
	DHI Tested Herds		DHI Dispersal Sales		Herds With No DHI		Order Buyers	
	N	%	N	%	N	%	N	%
Group I	58	53.7	42	38.8	1	0.9	4	6.5
Group II	10	29.4	17	50.0	3	8.8	4	11.7
Group III	2	3.9	8	15.8	27	52.9	14	27.4

* Group I - Dairymen currently on DHI
Group II - Dairymen who have discontinued DHI
Group III - Dairymen who have never been on DHI

Table XI shows that 100 dairymen (92.5 percent) on DHI (Group I) purchase supplemental herd replacements from other tested herds. However, of those dairymen who had discontinued DHI testing (Group II), 27 (79.4 percent) purchased their necessary herd replacements from herds or sales with DHI Records. Only 10 (19.7 percent) of Group III

dairymen had purchased herd replacements from herds or sales where animals have DHI Records. Of those dairymen who had never been on the DHI Records Program (Group III), 52.9 percent indicated they purchased supplemental herd replacements from herds which had no production records.

Dairymen's Opinions of the DHI Records Program

The opinions that dairymen have of the DHI Records Program which influence their decision to participate, join then discontinue, or to never start on the program are related to several factors. These factors seem to group into: (1) the opinions of the DHI Records Program in general; (2) factors that influence participation status; (3) the opinions of the DHIA Supervisor, his equipment, and the local association; and (4) their knowledge of how to use information received and the types of DHI Programs available.

There were 42 statements commonly answered by the three groups of dairymen. They were designed to determine dairymen's level of agreement with statements that indicate opinions of the DHI Program, acceptance of new types of testing plans available, and changes desired in the DHI Program.

The statements were constructed to test all ranges of opinions among the three groups concerning the DHI Records Program in general. There was a significant difference ($P<.01$) among the responses of those dairymen currently on the DHI Program (Group I), those dairymen who had been on DHI but had discontinued testing (Group II), and those dairymen who had never been on the program (Group III) for twelve of the fourteen statements. Popham (35) makes a statement concerning

the statistical significance of F that is applicable here, "The reader should be reminded again that statistical significance might not mean practical significance in terms of daily operating" (p. 176).

An effort was made to assess dairymen's opinions of the DHI Program in general. Table XII was developed to depict responses received on several statements designed for this purpose. Drawing a mean response of "very much" from all three groups was the statement, "All dairymen should have some sort of production and breeding records." Group I was "very much" in agreement with the contentions that DHI Programs and records will "increase the sale value of animals", will "increase management efficiency", and are "essential to any good dairy operation."

Statements to which all groups expressed the same general level of agreement were "individual cows should vary in butterfat from day to day", "DHI equipment should be checked more often", and "I would attend a meeting to get more information on DHI", all of which were in the "some" category.

It is interesting to note the response to "DHI testing is too expensive for value received." An agreement level of "none" or "little" was indicated by 85.2 percent of Group I, 47.7 percent of Group II, and 45.3 percent of Group III. The total mean response of 1.61 and 1.62, each at the "little" agreement level, apparently indicate that factors other than the expense of testing influence dairymen not to participate in the DHI Program.

The relatively high means for each of the three groups of dairymen on each of the seven statements concerning the "integrity of", "need for", "use of", and "value received from" DHI Records indicates

TABLE XII

SUMMARY OF DAIRYMEN'S OPINIONS OF THE DHI PROGRAM IN GENERAL

Statements	Dairymen Group*	Non Rsp. N	Non Rsp. %	Distribution by Level of Agreement: None N	None %	Little N	Little %	Some N	Some %	Much N	Much %	Very Much N	Very Much %	Mean	F Value
DHI testing is too expensive for value received	I	1	0.7	100	66.6	28	18.6	15	10.0	4	2.6	3	2.0	0.55	24.77**
	II	4	8.3	17	38.6	4	9.1	11	25.0	3	6.8	9	20.5	1.61	
	III	19	22.9	24	37.5	5	7.8	16	25.0	9	14.1	10	15.6	1.62	
Individual cows should vary in butterfat content from day to day	I	2	1.3	7	4.7	31	20.1	61	40.9	16	10.7	34	22.8	2.26	0.658
	II	5	10.4	9	20.1	8	18.6	10	23.3	5	11.6	11	25.6	2.02	
	III	16	19.3	12	17.9	9	13.4	19	28.3	12	17.9	15	22.4	2.13	
DHI Records are a true indication of production	I	1	0.7	2	1.3	2	1.3	19	12.7	71	47.3	56	37.3	3.18	25.73**
	II	4	8.3	8	18.2	6	13.6	11	25.0	12	27.3	7	15.9	2.09	
	III	18	21.7	10	15.4	6	9.2	14	21.5	22	33.8	13	20.0	2.34	
I feel the integrity of some herd averages is questionable	I	5	3.3	22	15.1	41	28.1	38	26.0	16	11.0	29	19.8	1.92	11.53**
	II	8	16.7	2	5.0	1	2.5	10	25.0	10	25.0	17	42.5	2.98	
	III	19	22.9	6	9.4	7	10.9	23	35.9	9	14.0	19	29.6	2.44	
DHI equipment should be checked more often	I	4	2.6	24	16.3	33	22.4	42	28.6	18	12.2	30	20.4	1.98	2.44
	II	8	16.7	9	22.5	8	20.0	12	30.0	9	22.5	2	5.0	1.68	
	III	28	33.7	18	32.7	8	14.5	17	30.9	5	9.1	7	12.7	1.55	
Cows should not test below 3.0% butterfat	I	3	2.0	108	72.9	12	8.1	18	12.2	7	4.7	3	2.0	0.55	14.73**
	II	6	12.5	25	59.5	6	14.3	4	9.5	1	2.4	6	14.3	0.98	
	III	18	21.7	29	44.6	8	12.3	4	6.2	9	13.8	15	23.1	1.58	
I would attend a meeting to get more information on DHI	I	65	43.0	19	22.1	4	4.6	13	15.1	20	23.3	30	34.8	2.44	5.27**
	II	7	14.6	18	43.9	3	7.3	5	12.2	6	14.6	9	21.9	1.63	
	III	19	22.9	26	40.6	4	6.2	11	17.2	8	12.5	15	23.4	1.72	
DHI Records will increase the sale value of animals	I	2	1.3	0	0.0	1	0.7	5	3.4	31	20.8	112	75.1	3.70	16.71**
	II	3	6.2	3	6.7	1	2.2	5	11.1	12	26.7	24	53.3	3.18	
	III	15	18.1	6	8.8	2	2.9	12	17.6	14	20.6	34	52.0	3.00	
DHI Records increase management efficiency	I	2	1.3	0	0.0	1	0.7	12	8.1	30	20.1	106	71.1	3.62	24.32**
	II	5	10.4	3	7.0	2	4.6	11	25.6	11	25.6	16	37.2	2.81	
	III	16	19.3	8	11.9	5	7.5	11	16.4	17	26.4	26	38.8	2.75	
I have more confidence in cows purchased from DHI herds	I	1	0.7	3	2.0	1	0.7	15	10.0	38	25.3	93	62.0	3.45	30.50**
	II	4	8.3	7	16.0	3	6.8	9	20.4	10	22.7	15	34.1	2.52	
	III	12	14.4	14	19.7	8	11.3	14	19.7	17	23.9	18	25.4	2.24	
The data needed for DHI Records is essential to any good dairy operation	I	2	1.3	0	0.0	2	1.3	6	4.0	36	24.2	105	70.3	3.64	36.84**
	II	7	14.6	2	4.9	5	12.2	7	17.1	9	21.9	18	43.9	2.88	
	III	18	21.7	12	18.5	3	4.6	17	26.2	13	20.0	20	30.8	2.40	
The DHI Program has made a tremendous contribution to the dairy industry	I	0	0.0	0	0.0	1	0.7	7	4.6	33	21.9	110	72.8	3.67	35.36**
	II	7	14.6	3	7.5	2	4.9	8	19.5	11	26.8	17	45.5	2.90	
	III	17	20.3	8	12.1	6	9.1	15	22.7	16	24.2	21	31.8	2.55	
All dairymen should have some sort of production and breeding records	I	0	0.0	0	0.0	0	0.0	2	1.3	21	13.9	128	84.8	3.83	4.30**
	II	4	8.3	0	0.0	1	2.3	2	4.5	11	25.0	30	68.2	3.59	
	III	8	9.6	0	0.0	0	0.0	4	5.3	13	17.3	58	77.3	3.72	
Lending agents should be made more aware of the value of DHI Records	I	1	0.7	2	1.3	3	2.0	12	8.0	35	23.3	98	65.3	3.49	28.10**
	II	7	14.6	3	7.3	4	9.8	10	24.4	5	12.2	19	46.3	2.80	
	III	17	20.3	12	18.2	6	9.1	17	25.7	12	18.2	19	28.8	2.30	

* Group I - Dairymen currently on DHI
Group II - Dairymen that have been on the DHI Program, but have discontinued
Group III - Dairymen that have never been on the DHI Program

** Statistically significant at the $P<.01$ level.

that dairymen hold the overall concept and intent of the DHI Records Program in relatively high esteem. For each statement, the means were ranked in descending order of Group I, Group II, and Group III, respectively. Dairymen who had never been on the program (Group III) had means indicating "some" agreement on three items: "confidence in cows purchased from DHI herds" (2.24), "The data needed for DHI Records is essential for good dairy operation" (2.40), and "Lending agents chould be made more aware of the value of DHI Records" (2.30).

Dairymen who discontinued DHI appeared to have a lower opinion of the records program than those who had never been on DHI. Group II responses tabulated a mean of 2.09 whereas Group III was 2.34 and Group I was 3.18 on "DHI Records are a true indication of production."

The means for the statement, "I feel the integrity of some herd averages is questionable", indicates that dairymen who have discontinued the program have more doubt of the integrity of some herd averages (2.98) than Group I (1.92) and Group III (2.44). Group II had 67.5 percent of the respondents in the "much" and "very much" agreement categories, while only 43.6 percent of Group III respondents were in the same categories.

Selected Factors that Influence Dairymen's DHI Participation Status

Statements designed to determine the amount of influence selected factors had on dairymen's participation status in the DHI Records Program were presented in color coded sections of the survey (Appendix B). Mean scores tabulated for each factor, weighted by distribution within response categories, were used to develop an

assessment of selected reasons why dairymen join the DHI Program discontinue the program, or chose never to participate in DHI.

Table XIII lists 17 selected factors designed to determine which factors have the most influence in dairymen enrolling in DHI Records Programs. Records were presented asking for an indication as to the amount of influence each had on their joining DHI. Statements are listed in descending order on the basis of weighted means.

Two factors had "very much" influence, those being desire to "improve production level" (3.66), and "to cull low-producing cows", (3.60). Approximately 86 percent of respondents agreed at the "much" or "very much" level that DHI "Records would help in management of their herds."

Five statements received mean scores that indicated other individuals such as "loan agent" (0.28), "tester" (0.40), "association" (0.41), or sons' or daughters' club projects (0.43), had no influence on dairymen joining DHI. "County extension programs stressing DHI" only influence 15.7 percent of the respondents at the "much" or "very much" level while 66 percent indicated "little" or "none" agreement.

Wanting information to make decisions on "which heifer to save" and "income over feed costs" received a rating of "much" influence as to why dairymen join DHI. All statements that received a rating of "much" were related to herd or management efficiency. The six factors rated highest in order of influence on the decision of Group I dairymen to join DHI were directly related to a desire of improving their economic condition. Statements with a high mean, such as "DHI Records will increase the sale value of animals" (3.70), "DHI Records will

TABLE XIII

SUMMARY OF RESPONSES FROM DHI PARTICIPANTS AS TO INFLUENCE OF SELECTED FACTORS ON THEIR JOINING DHI

Statements	Non Rsp. N	Non Rsp. %	None N	None %	Little N	Little %	Some N	Some %	Much N	Much %	Very Much N	Very Much %	Mean
	Distribution by Level of Agreement												
Desire to improve production level of herd	2	1.3	1	0.7	0	0.0	11	7.4	24	16.1	113	75.8	3.66
Desire to cull low-producing cows	2	1.3	1	0.7	2	1.3	8	5.4	36	24.1	102	68.5	3.60
Figured all information would help in management	3	2.0	0	0.0	4	2.7	16	10.8	43	29.1	85	57.4	3.41
Desire to know which heifers to save	2	1.3	13	8.7	10	6.7	35	23.5	33	22.1	58	38.9	2.76
Desired the feed cost and income/ feed cost	3	2.0	16	10.8	12	8.1	31	20.9	39	26.4	50	33.8	2.64
Hoped to raise butterfat content of milk	2	1.3	27	18.1	7	4.7	48	32.2	30	20.1	37	24.8	2.29
Desire to get on the 500 pound fat list	6	4.0	51	35.2	12	8.3	27	18.6	15	10.3	40	27.6	1.87
Hoped to sell high-priced breeding stock	4	2.6	67	45.6	16	10.9	29	19.7	13	8.8	22	15.0	1.37
County Extension programs stressed DHI Records	4	2.6	75	51.0	22	15.0	27	18.4	7	4.8	16	10.9	1.10
Felt my cows were as good as those winning awards	7	4.6	68	47.2	27	18.8	30	20.9	7	4.9	12	8.3	1.08
DHI Records seemed to help my neighbor	7	4.6	84	58.3	9	6.3	26	18.1	14	9.7	11	7.6	1.02
Desire to check on plant butterfat test	5	3.3	96	65.8	18	12.3	21	14.4	6	4.1	5	3.4	0.68
Was planning to disperse herd in a few years	6	4.0	114	78.6	9	6.2	13	9.0	3	2.0	6	4.1	0.47
Son or daughter wanted records for FFA or 4-H	7	4.6	118	81.9	9	6.3	6	4.2	3	2.0	8	5.6	0.43
DHI Association needed the help of my herd	8	5.3	113	79.0	10	6.7	14	9.8	3	2.1	3	2.1	0.41
DHI Tester was a friend	6	4.0	115	79.3	11	7.6	12	8.3	5	3.4	2	1.4	0.40
Loan agent requested DHI Records	4	2.6	128	87.1	9	6.1	5	3.4	2	1.4	3	2.0	0.28

increase management efficiency" (3.62), and "The data needed for DHI Records is essential to any good dairy operation" (3.64), for dairymen on DHI (Group I) indicate that these producers feel strongly about the benefits of DHI Records for aiding management decisions and being an asset to their dairy operation.

A summary of the selected factors influencing dairymen to discontinue DHI testing, listed in descending order determined by the order of weighted means, are presented in Table XIV. Group II dairymen were somewhat inconsistant with their responses in relation to DHI testing being too expensive. They had a mean of 1.61 on that statement in Table XII compared to 1.78 on the same statement in Table XIV. The distribution of respondents in the lower influence categories were quite similar, however.

Tying with "too expensive" (1.78) was the statement "butterfat percent was lower than plant test", which seemed inconsistant with the response of Group II dairymen to statements concerning butterfat in Table XII. Their mean response of 2.02 on "Individual cows should vary in butterfat content from day to day" and 0.98 on "Cows should never test below 3.0%" indicates they are aware of the fluctuation in butterfat content between twenty-four hour DHI samples for individual cows and the two days milk in the bulk tank pickup represented by the bulk tank sample.

The quality of the tester's work and his ability to fit into the dairymen's routine of milking were the factors receiving the highest percent of "very much" agreement as to why dairymen discontinue the DHI Program. Approximately one-fourth of the respondents agreed at the "very much" level that "irregular service", "tester and meters

TABLE XIV

SUMMARY OF RESPONSES FROM DAIRYMEN DROPPING OUT OF DHI AS TO INFLUENCE OF SELECTED FACTORS ON THEIR DISCONTINUING PARTICIPATION

Statements	Distribution by Level of Agreement																		Mean
	Non Rsp.		None		Little		Some		Much		Very Much								
	N	%	N	%	N	%	N	%	N	%	N	%							
Too expensive for value received	3	6.2	15	33.3	4	8.9	9	20.0	10	22.2	7	15.6							1.78
Butterfat % was lower than plant test	3	6.2	26	57.8	2	4.4	6	13.3	5	11.1	6	13.3							1.78
The service was irregular	5	10.4	19	44.2	5	11.6	4	9.3	4	9.3	11	25.6							1.60
Tester and meters made cows nervous	2	4.2	17	37.0	9	19.6	7	15.2	2	4.3	11	23.9							1.59
Did not like or have faith in the tester	2	4.2	22	47.8	6	13.0	5	10.9	2	4.3	11	23.9							1.43
DHI Association changed testers too often	5	10.4	23	53.5	3	7.0	4	9.3	4	9.3	9	20.9							1.37
No help was given on use of records	5	10.4	20	46.5	7	16.3	9	20.9	5	11.6	2	4.7							1.11
Milk production did not improve while on test	4	8.3	24	54.5	5	11.4	8	18.2	1	2.3	6	13.6							1.09
Did not understand and use information received	5	10.4	21	48.8	7	16.3	9	20.9	2	4.7	4	9.3							1.09
Required too much of my time	3	6.2	23	51.1	8	17.8	7	15.6	2	4.1	5	11.1							1.06
Tester was too demanding or irritating	3	6.2	26	57.8	7	15.6	3	6.7	3	6.7	6	13.3							1.02
Program was operated for benefit of DHI Assoc. Board	5	10.4	27	62.8	3	7.0	5	11.6	3	7.0	5	11.6							0.98
The DHI rules were too rigid, did not fit me	4	8.3	28	63.6	6	13.6	5	11.6	3	6.8	2	4.5							0.75
Tester's equipment caused high bacteria count	4	8.3	30	68.2	7	15.0	2	4.5	1	2.3	4	9.1							0.68
Hired help did not want to take the time and effort	6	12.5	34	81.0	1	2.4	2	4.8	0	0.0	5	11.9							0.56

making cows nervous", "did not like or have faith in tester", or the association "changed testers too often" were the reasons they discontinued the records program.

For the remaining factors, tabulated means indicated "little" influence on causing discontinuance of the program. Approximately 60 to 70 percent of the dairymen in Group II marked "little" or "none" on statements concerning the influence of "time involved", "rules", "dirty equipment", "hired help problems", and "association." However, 35 percent did indicate more than "some" agreement that they discontinued because of "Did not understand and use information received."

A summary of responses from dairymen never participating in DHI as to the influence of 16 selected factors on their decisions not to join DHI are listed in Table XV. The statements are listed in descending order of means weighted by response distribution in each category.

A "none" level of agreement, having calculated means of less than 0.5, was found for the statements, "DHI rules are too rigid", "tester's schedule is full", "county agent does not recommend," and "DHI Records are only for registered cows."

"Too expensive" drew 40.9 percent of the response in the "much" and "very much" categories with a similar distribution in "we maintain our own production records." Approximately 31 percent of Group III dairymen indicated "they had not been informed of the program", while 18 percent marked the high agreement categories to "not understanding how to use DHI Records."

More than ninety percent of dairymen not on test indicated a "none" level of agreement to the statement that their "county agent

TABLE XV

SUMMARY OF RESPONSES FROM DAIRYMEN NEVER PARTICIPATING IN DHI AS TO INFLUENCE OF SELECTED FACTORS ON THEIR DECISIONS TO NOT PARTICIPATE

Statements	Non Rsp. N	Non Rsp. %	None N	None %	Little N	Little %	Some N	Some %	Much N	Much %	Very Much N	Very Much %	Mean
	Distribution by Level of Agreement												
Too expensive	17	20.5	10	15.2	11	16.7	18	27.2	10	15.1	17	25.8	2.19
We maintain our own production records	16	19.2	16	23.8	10	14.9	12	17.9	8	11.9	21	31.3	2.12
Have not been informed of the program or its benefits	17	20.5	21	31.8	9	13.6	15	22.7	8	12.1	13	19.7	1.74
Do not understand how to use the DHI Records	22	26.5	26	42.6	10	16.4	14	23.0	3	4.9	8	13.1	1.29
I am waiting until my herd improves	25	30.1	13	22.4	31	53.4	5	8.6	3	5.2	6	10.3	1.29
I do not have faith in the DHI Testers	19	22.9	33	51.6	6	9.4	11	17.2	5	7.8	9	14.1	1.23
There is no DHI Tester in my area	24	28.9	37	62.7	5	8.5	9	15.3	3	5.9	5	8.5	0.88
Dairymen using DHI are always complaining about service	25	30.1	42	72.4	5	8.6	4	6.9	5	8.6	2	3.4	0.62
DHI Records do not seem to help my neighbor	27	32.5	41	73.2	4	7.1	5	8.9	3	5.4	3	5.4	0.62
Hired help does not want the extra work or bother	24	28.9	44	74.6	6	10.2	2	3.4	1	1.7	6	10.1	0.62
Neighbors DHI test is always lower than the plant test	29	34.9	36	66.7	7	12.9	4	7.4	3	5.5	2	3.7	0.59
Requires too much time to identify cow	23	27.7	41	68.3	6	10.0	11	18.3	1	1.7	1	1.7	0.58
The DHI rules are too rigid, do not fit me	26	31.3	42	73.7	5	8.8	9	15.8	1	1.8	0	0.0	0.45
The DHI Assoc. is full, cannot get on tester's schedule	22	26.5	42	82.4	6	11.8	2	3.9	0	0.0	1	2.0	0.27
My County Agent does not recommend DHI Records	28	33.7	50	90.9	1	1.8	2	3.6	0	0.0	2	3.6	0.23
DHI Records are only for registered cows	27	32.5	50	86.2	4	6.9	3	5.2	1	1.7	0	0.0	0.22

does not recommend the records program." Another interesting point is that there were approximately 20 to 35 percent non-respondents on each of the statements.

Dairymen's Opinions of the DHI Association and Supervisor

A review of the data collected from Oklahoma AMPI members indicated that opinions dairymen have of the DHIA Supervisor may have a more direct bearing on their acceptance of the DHI Records Program than any single or combination of factors. The DHI Supervisor is their contact person with the program. The attitudes the supervisor expresses about various aspects of the program as well as their work habits are on constant review by each dairyman. Since the supervisor is an employee of the local association's board of directors, the attitude he has toward his job, his punctuality, the accuracy of his work, etc., is considered by some dairymen as being the attitude of the board.

There were eleven statements on the survey designed to determine the opinions that dairymen, based on their participation status in DHI, had of the supervisor and the association. These statements, along with the distribution of the level of agreement by respondents, are listed in Table XVI.

There were four statement in this area in which there was not a significant difference ($P<.01$ or $P<.05$) among the levels of agreement of the three dairymen groups. There was no significant difference among dairymen in their level of agreement to "DHI tester's meters do not always weigh accurately" and that of "DHI weighing equipment

TABLE XVI

SUMMARY OF DAIRYMEN'S OPINIONS OF THE DHI SUPERVISOR AND ASSOCIATION

Statements	Dairymen Group*	Non Rsp. N	Non Rsp. %	Distribution by Level of Agreement: None N	None %	Little N	Little %	Some N	Some %	Much N	Much %	Very Much N	Very Much %	Mean	F Value
DHI testers' meters do not always weigh accurately	I	6	4.0	47	32.4	50	34.5	31	21.4	10	6.9	7	4.8	1.17	1.170
	II	6	11.8	14	33.3	14	33.3	10	23.8	1	2.4	3	7.1	1.17	
	III	31	37.3	28	53.8	11	21.2	9	17.3	1	1.9	3	5.8	0.85	
Individual cows will vary in butterfat from day to day	I	2	1.3	7	4.7	31	20.1	61	40.9	16	10.7	34	22.8	2.26	0.658
	II	5	10.4	9	20.1	8	18.6	10	23.3	5	11.6	11	25.6	2.02	
	III	16	19.3	12	17.9	9	13.4	19	28.3	12	17.9	15	22.4	2.13	
The plant test will vary with hauler sampling accuracy	I	4	2.6	4	2.7	14	9.5	50	34.0	30	22.4	49	33.3	2.72	1.630
	II	4	8.3	2	4.5	5	11.4	10	22.7	9	22.5	18	40.9	2.82	
	III	18	21.7	5	7.7	1	1.5	12	18.5	16	24.6	31	47.7	3.03	
I feel the integrity of some herd averages is questionable	I	5	3.3	22	15.1	41	28.1	38	26.0	16	11.0	29	19.8	1.92	11.53**
	II	8	16.7	2	5.0	1	2.5	10	25.0	10	25.0	17	42.5	2.98	
	III	18	21.7	6	9.4	7	10.9	23	35.9	9	14.0	19	29.6	2.44	
DHI weighing equipment should be checked more often	I	4	2.6	24	16.3	33	22.4	42	28.6	18	12.2	30	20.4	1.98	2.440
	II	8	16.7	9	22.5	8	20.0	12	30.0	9	22.5	2	5.0	1.68	
	III	28	33.7	18	32.7	8	14.5	17	30.9	5	9.1	7	12.7	1.55	
Butterfat test would be more uniform if all were run at the Okla. DHIA, Inc. Lab with electric Milko-tester	I	9	5.9	44	31.0	20	14.1	32	22.5	19	13.4	27	19.0	1.75	3.49**
	II	10	20.8	6	15.8	3	7.9	11	28.9	6	15.8	12	31.6	2.39	
	III	28	33.7	13	23.6	4	7.3	15	27.3	7	12.7	16	29.1	2.16	
The variation in butterfat test is always the tester's fault	I	3	2.0	86	58.1	38	25.7	21	14.2	3	2.0	0	0.0	0.62	0.550
	II	7	14.6	26	63.4	9	21.9	4	9.8	1	2.4	1	2.4	0.59	
	III	19	22.9	43	67.2	14	21.9	5	7.8	1	1.6	1	1.6	0.48	
DHI Associations should cover smaller areas to reduce the tester's mileage and expenses	I	3	2.0	64	43.2	33	22.3	36	24.3	11	7.4	4	2.7	1.04	7.29**
	II	8	16.7	17	42.5	9	22.5	9	22.5	1	2.5	4	10.0	1.76	
	III	24	28.9	19	32.2	5	8.5	17	28.8	7	11.9	11	18.6	1.23	
DHI testers should be paid by the hour of work instead of by the number of cows tested	I	4	2.6	104	70.7	13	8.8	20	13.6	5	3.4	5	3.4	0.60	6.73**
	II	10	20.8	20	52.6	8	21.0	6	15.8	2	5.3	2	5.3	0.89	
	III	26	31.3	30	53.6	6	10.5	6	10.5	4	7.0	11	19.3	1.30	
Cows should never test below 3.0% butterfat	I	3	2.0	108	72.9	12	8.1	18	12.2	7	4.7	3	2.0	0.55	14.73**
	II	6	12.5	25	59.5	6	14.3	4	9.5	1	2.4	6	14.3	0.98	
	III	18	21.7	29	44.6	8	12.3	4	6.2	9	13.8	15	23.1	1.58	
A mail-in owner-sampler program where the tester did not come to my farm would most suit my needs	I	12	7.9	113	81.3	11	7.9	5	3.6	5	3.6	5	3.6	0.40	19.58**
	II	11	22.9	20	54.0	2	5.4	0	0.0	4	10.8	11	29.7	1.57	
	III	29	34.9	22	40.7	8	14.8	10	18.5	9	16.7	5	9.3	1.39	

* Group I - Dairymen currently on DHI
Group II - Dairymen that have been on the DHI Program, but have discontinued
Group III - Dairymen that have never been on the DHI Program

** Statistically significant at $P<.01$.

should be checked more often." All groups of dairymen were also consistent in their opinions that "The plant test will vary with the hauler's sampling accuracy."

Dairymen had a low level of agreement, "little", (0.62 for Group I, 0.59 for Group II, and 0.48 for Group III) for the statement, "The variation in butterfat is always the tester's fault." However, close inspection of the response to all statements concerning butterfat reveals dairymen's opinions toward the supervisor's work. Using Group II as an example, they agree on four statements: (1) at the "some" level (2.02) that "cows will vary in butterfat test from day to day", (2) at the "little" level (0.59) that "variation is not always the tester's fault", (3) at the "little" level (0.98) that "cows should not test below 3.0 percent butterfat", and that (4) "plant test will vary with hauler sampling accuracy" at the "much" level (2.82). Group II dairymen were also more in agreement with the use of a central lab for butterfat testing (2.39) than Group I (1.75) or Group III (2.16).

Dairymen who have discontinued the Dairy Herd Improvement Records Program seem to have a more adverse opinion of the supervisor and his equipment than those dairymen who have never been on the program. Group II had a mean response of 2.98 on the statement, "I feel the integrity of some herd averages is questionable", whereas Group III was 2.44. The mean for Group I was a full rank below Group II with a 1.92 mean. Group II dairymen, with a mean of 1.76, also had a desire for the association to cover a smaller area than Group I (1.04) or Group III (1.23). The most significant difference in opinions was found for those dairymen who had discontinued DHI in their rating of a

mail-in owner-sampler program as compared to the other two groups' responses. A total of 40.5 percent of the dairymen responding reported a "much" or "very much" level of agreement that they "desired a DHI plan that did not require a supervisor to come to their farm."

Dairymen who had not been on the DHI Program were less pronounced in their opinions toward the supervisor than Group II dairymen. Group III had tabulated means consistently lower than the dairymen on the program or those who had quit the program.

Dairymen of Group III had a higher mean response (1.30) compared to the 0.89 for Group II and 0.60 for Group I dairymen on the statement, "DHI testers should be paid by the hour of work instead of by the number of cows."

The opinions of Group I dairymen as revealed by their level of agreement to statements posed were two-fold. They wanted the supervisor to maintain integrity of the records by "checking the weighing equipment more often" (1.98). Their mean concerning the "integrity of records was questionable" was 1.92 compared to 2.98 and 2.44 for Groups II and III, respectively. Group I dairymen wanted butterfat tests run by their supervisor (1.75 on use of central lab) and were not interested in a mail-in type of program (0.40 mean response on mail-in owner-sampler system).

Dairymen's Opinions on DHI Association Awards Program

The investigator felt that the opinions dairymen have of special programs sponsored by the local association may also influence their opinions toward that association and supervisor. Most DHI Associations

in Oklahoma have an awards program recognizing the high milk and butterfat record cows, high herd averages for milk and fat, and most improved herds for milk and butterfat. Also, all herds having over a 500-pound rolling herd average for butterfat are honored at the annual Dairy Day Program.

The purpose of the awards program is two-fold: (1) to stimulate attendance at annual meetings, and (2) promote the use of records in herd management as measured by production improvement.

Three statements were presented to collect opinions of the awards program by the three dairymen groups. The responses, by level of agreement, are in Table XVII. The statement, "The high cow and herd awards should be discontinued" received the least acceptance, 0.63 by Group I, 1.21 by Group II, and 0.89 by Group III. The low means for the three groups reflects that dairymen want the awards program; however, 21.4 percent of the dairymen who have discontinued DHI agreed at a "very much" level and the total responses tabulated a mean almost double (1.21) that of Group I (0.63).

There was a significant difference at the $P<.01$ level in the agreement among dairymen groups on the statement, "Awards programs put too much emphasis on top cows and herds instead of overall management." Group I showed the least level of agreement (1.79) while Group III had the highest level of agreement (2.61).

There was no significant difference in the response (Group I, 1.33, Group II, 1.86, and Group III, 1.69) to the statement, "I would like to see the awards program based on percentage of breed average milk."

TABLE XVII

DAIRYMEN'S OPINIONS OF THE
DHI AWARDS PROGRAM

Statements	Dairy-men Group*	Non Rsp. N	Non Rsp. %	Distribution by Level of Agreement: None N	None %	Little N	Little %	Some N	Some %	Much N	Much %	Very Much N	Very Much %	Mean	F Value
The high cow and herd awards should be discontinued	I	5	3.3	101	69.2	15	10.3	19	13.0	5	3.4	6	4.1	0.63	3.66**
	II	6	12.5	24	57.1	4	9.5	4	9.5	1	2.4	9	21.4	1.21	
	III	19	22.9	41	64.0	5	7.8	9	14.0	2	3.1	7	10.9	0.89	
Awards programs put too much emphasis on top cows and herds instead of overall sound management	I	4	2.6	33	22.4	29	19.7	42	28.6	22	14.9	21	14.3	1.79	10.04**
	II	8	16.7	6	15.0	3	7.5	11	27.5	6	15.0	14	35.0	2.47	
	III	16	19.3	8	11.9	5	7.4	18	26.8	10	14.9	26	38.8	2.61	
I would like to see the awards program based on % of breed average milk	I	12	7.9	52	37.4	28	20.1	34	24.4	11	7.9	14	10.1	1.33	2.88
	II	11	22.9	10	27.0	3	9.1	13	35.1	4	10.8	7	18.9	1.86	
	III	28	33.7	17	30.9	8	14.5	15	27.3	5	9.1	10	18.2	1.69	

* Group I - Dairymen currently on DHI
Group II - Dairymen that have been on the DHI Program, but have discontinued
Group III - Dairymen that have never been on the DHI Program

** Statistically significant at P<.01.

Influence of Central Testing Lab on Validity of Records

The Oklahoma Dairy Herd Improvement Association, Inc. (Okla. DHIA, Inc.) has operated a central butterfat testing lab for the past two years as a service to associations having difficulty getting milk samples tested by their supervisor. A great many problems have developed; however, the number of associations that utilize the lab services has grown steadily. Most of the problems with the lab service were prior to the purchasing of an electronic Milko-tester. This machine has greatly improved the service, accuracy, and speed of testing milk samples.

The statement, "Butterfat tests would be more uniform if all were run at the Okla. DHIA, Inc. lab with an electronic Milko-tester" was designed to determine dairymen's acceptance of a central milk testing laboratory. Summarization of responses is presented in Table XVIII.

TABLE XVIII

DAIRYMEN'S ACCEPTANCE OF CENTRAL TESTING LAB

Level of Agreement	Distribution by Group I* N	%	II N	%	III N	%
Non-rsp.	9	5.9	10	20.8	28	33.7
None	44	31.0	6	15.8	13	23.6
Little	20	14.1	2	7.9	3	7.3
Some	32	22.5	11	28.9	15	27.3
Much	19	13.4	6	15.8	7	12.7
Very Much	27	19.0	12	31.6	16	29.1
Mean	1.75		2.39		2.16	
F Value**	3.49					

* Group I - Dairymen currently on DHI
Group II - Dairymen who have discontinued DHI
Group III - Dairymen who have never been on DHI

** Statistically significant at $P < .05$.

There was a high level of response by dairymen that are currently on the DHI Program (Group I, 94.1 percent) or have been on the program (Group II, 79.2 percent). Approximately 33 percent (20) dairymen of Group III did not respond to this statement.

Of the 148 dairymen who responded in Group I, approximately 48 were from districts that have had milk samples tested through the lab at least one time. No attempt was made to separate the response from the regular users of the lab from the remaining respondents of Group I.

The difference between the level of acceptance by the three groups was significant at the $P < .05$ level, but the F Value was not

sufficiently large to be significant at the P<.01 level.

Group I dairymen had a mean of 1.75 with 32.4 percent (46) indicating an acceptance of "much" or "very much". However, the low mean would apparently indicate that the major proportion of dairymen want their milk samples tested by the supervisor they see once a month. Dairymen who have discontinued the DHI Records Program had a mean of 2.39, giving them a rating of "some" acceptance. Group III dairymen responded with an average of 2.16, having 12.9 (7) and 29.1 percent (16) in the "much" and "very much" categories, respectively.

Dairymen's Confidence in and Use of DHI Records Data in Making Management Decisions

Dairymen of each of the three groups, those on DHI, those who had discontinued, and those who had never participated in DHI, tabulated "much" agreement to statements, "DHI Records will increase management efficiency" and "Records are essential to all good dairy operations" (Table XII) which indicated they believe in the DHI concept. But, the following concerns then arise: Do the present DHI testing plans meet dairymen's needs? How extensively are various segments of cow and/or herd data utilized in herd management by participating dairymen? Would a variety of testing plans or optional data segments increase DHI participation? A survey was designed to determine answers to these questions and administered to dairymen attending the local association meetings of 1974-1975.

Table XIX summarizes the confidence and understanding of the DHI Records Program by participating dairymen. The mean scores were sufficiently high to indicate the DHI Records are basically meeting

TABLE XIX

DAIRYMEN'S CONFIDENCE AND UNDERSTANDING
OF DHI RECORDS PROGRAM

Statement	Distribution by Level of Agreement												
	Non Rsp.		None		Little		Some		Much		Very Much		
	N	%	N	%	N	%	N	%	N	%	N	%	Mean
I feel the present DHI Records are meeting my needs for a production records system	17	15.8	1	1.1	1	1.1	9	10.0	34	37.7	45	50.0	3.34
My confidence in the accuracy of the DHI Records Program:													
Milk and Fat	16	14.9	3	3.3	1	1.1	5	5.5	40	43.9	42	46.0	3.29
Feed	19	17.7	6	6.8	2	2.3	22	25.0	33	37.5	22	28.4	2.78
Genetic	20	18.6	4	4.6	2	2.3	19	21.8	41	47.1	21	24.1	2.84
Rank your level of understanding of the information on the:													
Individual Cow Report	17	15.8	0	0.0	4	4.4	21	23.3	43	47.7	22	24.4	2.92
Herd Ranking & Summary	23	21.4	1	1.2	5	5.9	27	32.1	40	47.6	11	13.1	2.65

the needs of dairymen on the program. Fifty percent of the respondents agreed "very much" with the statement, "The present DHI Records are meeting my needs for a production records system." The three top agreement categories, "some", "much", and "very much", accounted for 97.7 percent of the response.

Approximately 89 percent of the respondents showed "much" or "very much" confidence in the milk and butterfat data. Only 65.9 percent of the dairymen using the program had "much" or more confidence in the feed data, while 71.2 percent had a confidence level of "much" and "very much" in the genetic evaluation.

Seventy-two percent of the dairymen on test indicated they understood the information on the Individual Cow Report at the top two levels. The Herd Ranking and Summary has somewhat less understanding among dairymen, showing 47.6 percent responding as "much" and 13.1 percent at the "very much" level of understanding.

To determine dairymen's use of DHI data in making management decisions, fourteen data segments of the Individual Cow Report were presented, requesting an indication of the level of influence each had on management decisions. Table XX summarizes the cow management data with the various items listed in descending order of apparent use in management decisions.

TABLE XX

INFLUENCE OF ITEMS ON THE INDIVIDUAL COW REPORT ON DAIRYMENS' MANAGEMENT DECISIONS

Items	Non Rsp. N	%	None N	%	Little N	%	Some N	%	Much N	%	Very Much N	%	Mean
	Distribution by Influence on Management												
Lact. to Date D-M-F	5	4.6	0	0.0	1	0.9	10	9.8	36	35.2	55	53.9	3.42
Test Day M-F	1	0.9	0	0.0	2	1.8	9	9.4	42	39.6	53	50.0	3.37
305 2X ME M-F	3	2.8	1	0.9	2	1.9	13	12.5	32	30.7	56	53.8	3.35
Due Date	1	0.9	5	4.7	5	4.7	17	16.0	24	22.6	55	51.8	3.12
Diff. From Herdmate	1	0.9	2	1.8	4	3.7	26	24.5	40	37.7	34	32.1	2.94
Lact. to Date Inc/F.C.	3	2.8	3	2.8	12	11.5	19	18.2	32	30.7	38	36.5	2.86
Test Day Inc/F.C.	5	4.6	5	4.9	10	9.8	26	25.5	33	32.3	28	27.4	2.67
Persistency	4	3.7	5	4.8	12	11.6	25	24.3	36	34.9	25	24.3	2.62
Test Day Fat Lbs.	2	1.8	6	5.7	15	14.3	31	29.5	26	24.7	27	25.7	2.50
Action Needed	8	7.4	5	4.9	15	14.7	26	25.5	34	33.3	19	18.6	2.47
Days Dry	4	3.7	8	7.7	16	15.5	30	29.1	34	32.7	15	14.5	2.31
Age at Calving	5	4.6	6	5.9	32	31.7	37	36.6	20	19.6	7	6.8	1.90
Conc. Fed-Ind.	6	5.6	12	11.9	29	28.7	32	31.7	15	14.8	13	12.9	1.88
Body Weight	5	4.6	13	12.7	40	39.2	33	32.3	13	12.7	3	2.9	1.53

Since the milk and fat production have always been the basic criteria for DHI Records, it was not surprising that the first three items in order of influence on management were those relating directly to milk production and the fourth (Due Date) telling when the cow's production cycle would start over. Lactation to date, giving the number of days milked and the accumulated milk and butterfat production, had a mean of 3.42 on the four-point scale.

Nine of the items received a mean above 2.50 which indicates they had "much" or "very much" influence on dairymen's management decisions. Each of these nine items relate to milk production or a daily cost and income estimate. The items that relate to cow history or something happening in the past, such as Dry Days or Age at Calving that is not as closely related to current daily income, were not given a rating above 2.49, "some" influence. All information received a rating averaging "some" influence or higher in making management decisions. Body weight was ranked at the bottom of the list with an average of 1.53.

Management option lists and a culling guide were developed in 1970 at the request of large herd owners. They wanted an easy-to-use pocket size list of certain management data, computer printed instead of them having to look through several pages of the regular monthly reports. These options, even though priced as a two cent and one cent additional monthly cost, have been well accepted. Approximately one-third of Oklahoma's cows on test are receiving one of these options.

A ranking of the way Oklahoma dairymen use the option lists in making management decisions is presented in Table XXI. Of the 107

TABLE XXI

INFLUENCE OF SELECTED OPTIONS ON DAIRYMENS' MANAGEMENT DECISIONS

Options	Distribution by Influence on Management												Mean
	Non Rsp.		None		Little		Some		Much		Very Much		
	N	%	N	%	N	%	N	%	N	%	N	%	
MGMT. OPTION PACKAGE													
Cows to Dry	29	27.1	4	5.1	11	14.1	9	11.5	22	28.2	32	41.0	2.86
Cows to Breed	26	24.2	2	2.4	15	18.5	9	11.1	30	37.0	25	30.8	2.75
Low Cow List	30	28.0	5	6.5	13	16.8	14	18.2	26	33.7	19	24.6	2.53
Cow to Pregnancy Ck.	27	25.0	14	17.5	20	25.0	20	25.0	20	25.0	6	7.5	1.80
Cows to Lead Feed-Due	33	30.8	15	20.2	14	18.9	23	31.1	15	20.2	7	9.4	1.80
CULLING GUIDE	33	30.8	11	14.8	13	17.5	16	21.6	22	29.7	12	16.2	2.15

dairymen responding to the question concerning options, 40 (37.3 percent) were buying the Management Options and 27 (25.2 percent) were purchasing the Culling Guide. A high percentage of questions were left blank on this section of the survey.

The two lists, Cows to Pregnancy Check and Cows to Lead Feed-Due, have rather low use rating for items received as extra cost options. However, they come in a five-list package with the first three items which have a high use and definite appeal to the large herd owners.

Dairymen's Acceptance of New DHI Record Plans

Offering development of the Management Options, just discussed, was a successful addition to DHI Record plans. Judging from this success, offering a wide selection of optional segments or increasing the variation among testing plans could possibly stimulate participation by dairymen not currently using the DHI Program.

There have been three DHI Record plans available in Oklahoma for many years. The Official DHI or Standard plan has been the most commonly used, having approximately 80 percent of the cows on test enrolled in this plan. The Official DHIR plan includes nearly 12 percent of the cows and the Unofficial DHI or Owner-Sampler plan makes up the remaining 8 percent of the cows enrolled in DHI.

New DHI plans have been available for two or three years; however, they have had little advertising or promotion. At the present time there is one herd on the Mail-In Milk-Only plan, probably the one respondent in the "very much" category for that program (Table XX).

Table XXII lists the distribution of respondents by level of acceptance of the DHI plans available to dairymen. The high means, 3.71, 2.71, and 1.84 of Group I (dairymen on DHI), for the Official DHI, Official DHIR and Owner-Sampler plans respectively, indicate dairymen now enrolled in DHI are relatively well satisfied. Group I dairymen had a low mean on each of the new unofficial plans (Supervised AM-PM, 1.0, Supervised Milk Only, 0.63, Owner-Sampler AM-PM, 0.63, Owner-Sampler Milk Only, 0.61) reflecting only a "little" acceptance of these testing plans.

The response of dairymen who have discontinued DHI testing (Group II) yielded means that followed a similar pattern to Group I for their acceptance of the various record plans. The Owner-Sampler plan did receive a higher acceptance, 2.28, for Group II compared to 1.84 for Group I and 1.74 for the Group III dairymen.

Considering the new plans for Unofficial Records, the Supervised AM-PM plan received the highest level of acceptance. Dairymen who had never been on test showed a mean of 1.83, "some" acceptance. Group I dairymen ranked second in acceptance with a mean of 1.00, followed by Group II at 0.91.

The AM-PM and Milk-Only plans received mean scores that would indicate "little" acceptance (0.61 to 0.73) for Group I and Group II dairymen. However, with each of these plans the dairymen who had never been on DHI showed a mean score almost double that of Group I or Group II. The "much" and "very much" categories received 19.8 percent (14) of responses to acceptance of the Owner-Sampler AM-PM testing plan.

TABLE XXII

DAIRYMENS' ACCEPTANCE OF NEW DHI PLANS

Statements	Dairymen Group*	Non Rsp. N	Non Rsp. %	Distribution by Level of Acceptance: None N	None %	Little N	Little %	Some N	Some %	Much N	Much %	Very Much N	Very Much %	Mean	F Value
Standard Official DHI - Supervisor weighs, samples milk, tests for B.F.%, records management data or breeding, calving and dry dates, feed fed and feed cost, and verifies cow identification	I	15	9.9	1	0.7	0	0.0	7	5.1	22	16.2	106	77.9	3.71	33.52**
	II	9	18.7	5	12.8	1	2.6	6	15.4	9	23.1	18	46.2	2.87	
	III	30	36.0	10	18.8	3	5.6	11	20.9	13	24.5	16	30.2	2.42	
Official DHIR - Same as Standard DHI but for registered cows with lactation reports going to breed associations, check test and extra charges set by breed association	I	22	14.5	24	18.6	4	3.1	16	12.4	25	20.1	59	45.7	2.71	8.32**
	II	13	27.1	11	31.4	2	5.7	6	17.1	7	20.0	9	25.7	2.03	
	III	34	40.8	17	34.7	3	6.1	13	26.5	8	16.3	8	16.3	1.73	
Owner-Sampler - Herd owner collects all milk weights and samples and records all information, supervisor delivers meters and tests milk for B.F.%	I	23	15.2	36	29.1	17	13.3	32	25.0	18	14.1	25	19.5	1.84	1.68
	II	12	25.0	7	19.4	2	5.5	10	27.8	8	22.2	9	25.0	2.28	
	III	29	34.9	16	29.6	5	9.2	16	29.6	11	20.4	6	11.1	1.74	
Supervised AM-PM - Supervisor weighs and samples milk from only one milking/month, alternating AM and PM; all other data is same as standard DHI	I	23	15.2	66	51.5	23	17.9	19	14.8	13	10.2	7	5.5	1.00	8.12**
	II	16	33.3	19	59.3	3	9.4	5	15.6	4	12.5	1	3.1	0.91	
	III	36	43.4	11	23.4	6	12.7	17	36.2	6	12.8	7	14.9	1.83	
Supervised Milk-Only - Supervisor weighs milk, records all feed and breeding data; herd owner's tank test is used in place of individual cows' B.F. test	I	24	15.9	77	60.6	24	18.9	23	18.1	2	1.6	1	0.8	0.63	3.19**
	II	15	31.3	21	63.6	4	12.1	6	18.2	0	0.0	2	6.1	0.73	
	III	36	43.4	20	42.6	13	22.7	7	14.9	5	10.6	2	4.3	1.06	
Owner-Sampler AM-PM - Herd owner weighs and samples milk for only milking/month, alternating AM and PM and records the other management data	I	26	17.2	76	60.8	25	20.0	20	16.0	2	1.6	2	1.6	0.63	11.58**
	II	15	31.2	23	69.7	4	12.1	3	9.1	1	3.0	2	6.1	0.66	
	III	36	43.4	16	34.0	11	23.4	6	12.8	8	17.0	6	12.8	1.51	
Owner-Sampler Milk-Only - Herd owner weighs milk, records feed fed and breeding dates, tank test or breed average replaces individual cows' B.F. samples	I	29	19.2	75	61.5	25	20.5	18	14.8	3	2.5	1	0.8	0.61	7.79**
	II	16	33.3	23	71.9	3	9.4	3	9.4	1	3.1	2	6.3	0.63	
	III	36	43.4	17	36.2	13	27.7	6	12.8	8	17.0	3	6.4	1.30	

* Group I - Dairymen currently on DHI
Group II - Dairymen that have been on the DHI Program, but have discontinued
Group III - Dairymen that have never been on the DHI Program

** Statistically significant at P<.01.

Dairymen's Opinions Toward Optional Segments to DHI Plans

While administering the survey to determine the use of the monthly Individual Cow Reports to make management decisions, some comments were expressed by dairymen to make more of the information available on an optional basis and let them pay only for what they use. The mean scores and distribution of response by order of use (Table XI), or the mean of 3.34 (Table XII) for "present DHI Records meeting their needs" collected on the same survey would not indicate that many participants in DHI would want a change. However, dairymen not participating in the program may have differing opinions. A section was included in the mail-in survey to determine opinions of the three dairymen groups concerning making various segments of the present DHI Records optional (Appendix A).

Responses to statements suggesting various components of the management sections be made optional are summarized in Table XXIII. There was a significant difference at the $P < .01$ level in the responses of the three dairymen groups to statements posed in the section.

For each statement, dairymen participating in the DHI Program (Group I) had lower mean responses reflecting less desire to change from the present system than either Group II or Group III. Dairymen who have never been on DHI (Group III) had mean scores indicating the most desire for optional plans.

Dairymen on DHI (Group I) had a mean of 2.00, "some" agreement, to the statement, "The DHI Program should have a very basic plan with a wide selection of options so dairymen could pick what they want."

TABLE XXIII

DAIRYMEN'S OPINIONS TOWARD OPTIONAL SEGMENTS OF DHI PLANS

Statements	Dairy-men Group*	Non Rsp. N	Non Rsp. %	Distribution by Level of Agreement: None N	None %	Little N	Little %	Some N	Some %	Much N	Much %	Very Much N	Very Much %	Mean	F Value
The DHI Program should have a very basic plan with a wide selection of options so dairymen could pick what they want	I	12	7.9	12	20.9	18	13.0	40	28.8	28	20.1	24	17.3	2.00	6.58**
	II	10	20.8	7	18.4	2	5.3	8	21.1	6	15.8	15	39.3	2.53	
	III	27	32.5	5	10.7	4	7.1	4	21.4	10	17.6	24	42.9	2.75	
The feeding data should be optional	I	10	6.6	68	48.2	22	15.7	27	19.1	13	9.2	11	7.8	1.12	17.20**
	II	12	25.0	13	36.1	3	8.3	6	16.7	7	19.4	7	19.4	1.78	
	III	30	36.1	30	18.9	3	5.7	14	26.4	6	11.3	20	37.7	2.43	
Breeding records should be optional	I	11	7.3	77	55.0	23	16.4	18	12.9	15	10.7	7	5.0	0.94	14.21*
	II	12	25.0	12	33.3	6	16.7	2	5.6	9	35.0	7	19.4	1.81	
	III	27	32.5	17	30.3	4	7.1	11	19.6	9	16.1	15	26.8	2.02	
The difference from herd mates should be optional	I	10	6.6	72	51.0	20	14.2	25	17.7	13	9.2	11	7.8	1.09	14.08**
	II	12	25.0	10	27.8	4	16.1	6	16.7	7	19.4	9	25.0	2.03	
	III	29	34.9	13	24.1	3	5.6	15	27.8	10	18.5	13	24.1	2.13	
The 305-ME Projected Records should be optional	I	10	6.6	84	59.6	25	17.7	17	12.1	8	5.7	7	5.0	0.79	17.02**
	II	11	22.9	13	35.1	5	16.2	6	16.2	4	10.8	8	21.6	1.68	
	III	29	34.9	16	29.6	6	11.1	11	20.4	8	14.8	13	24.1	1.93	
The ranking of cows according to producing ability should be optional	I	10	6.6	61	43.3	22	15.6	28	19.9	16	11.3	14	9.9	1.29	4.26**
	II	12	25.0	9	25.0	7	19.4	7	19.4	4	11.1	9	25.0	1.92	
	III	28	33.7	19	34.5	3	5.5	14	15.5	7	12.7	12	21.8	1.82	
Collection and calculation of all individual cow B.F.% should be optional	I	11	7.3	93	66.4	16	11.4	15	10.7	9	6.4	7	5.0	0.72	16.44**
	II	11	22.9	19	51.4	4	10.8	3	8.1	5	13.5	6	16.2	1.32	
	III	27	32.5	17	30.4	3	5.4	14	25.0	12	21.4	10	17.9	1.91	
The feed cost and income over feed cost should be optional	I	9	5.9	92	64.8	19	13.4	14	9.9	8	5.6	9	6.3	0.75	15.50**
	II	12	25.0	18	50.0	4	11.1	2	5.6	5	13.9	7	19.4	1.42	
	III	27	32.5	18	32.1	5	8.9	9	16.1	10	19.9	14	25.0	1.95	
A mail-in owner-sampler program where the tester did not come to my farm would most suit my needs	I	12	7.9	103	81.3	11	7.9	5	3.4	5	3.4	5	3.4	0.40	19.58**
	II	11	22.9	20	54.1	2	5.4	0	0.0	4	10.8	11	29.7	1.57	
	III	29	34.9	22	40.7	8	14.8	10	18.5	9	16.7	5	9.3	1.39	
I would like a program that only required weighing and recording one milking per month	I	11	7.3	121	86.4	8	5.7	8	5.7	0	0.0	3	2.1	0.26	28.25**
	II	10	20.8	24	63.2	6	15.8	3	7.7	4	10.5	1	2.6	1.74	
	III	31	37.3	21	40.4	7	13.5	7	13.5	10	19.2	7	13.5	1.52	

* Group I - Dairymen currently on DHI
Group II - Dairymen that have been on the DHI Program, but have discontinued
Group III - Dairymen that have never been on the DHI Program

** Statistically significant at P<.01.

Group II dairymen and dairymen who had never been on DHI agreed with the statement at the "much" level with means of 2.53 and 2.75, respectively.

There were consistent answers concerning the feed data by dairymen on DHI between the survey on order of use and "The feed cost and income over feed should be optional." The order of use means were 2.86 and 2.67 for the "Lactation to date income/feed cost" and "Test day income/feed cost" (Table XI) and the Group I mean for making feed data optional was 0.75, "little" agreement. Group II dairymen who have been exposed to using the feed and cost data had a mean of 1.42. Dairymen who have never used DHI Records had more agreement to feed data being as an option, tabulating a mean of 1.95.

A similar comparison within Table XXIII can be made for 305-ME projected records. This received a mean response of 0.79 ("little" agreement) to make 305-ME projected records as an option. There were 32.4 percent (12) of the respondents in Group II indicating a "much" or "very much" agreement with a mean for their response of 1.68. Group III dairymen had a mean of 1.93 with 38.9 percent (24) of the respondents making the "much" or "very much" level of agreement to making the projected records optional.

A portion of the breeding charts are an optional part of the present program, optional in the sense that they must be requested, but no price difference if used or not used. The opportunity to select the method of ranking cows according to producing ability on the Herd Ranking and Summary is also an option. However, dairymen on DHI responded to these statements in the same manner as statements concerning other option suggestions. Group I means of 0.94 and 1.29 were

"little" agreement compared to "some" agreement for Group II (1.81, 1.92) and Group III (2.02, 1.82).

Group II dairymen reinforced their concern about DHIA Supervisors by responding with a mean of 1.57, almost four times that of Group I (0.40) on their desire to have "A Mail-In Owner-Sampler program where the tester did not come to my farm would most suit my needs" as an optional plan.

Selected Comments From Dairymen Concerning Their DHI Participation Status

Approximately 25 percent of the dairymen wrote comments to augment their reasons for being on, off, or never joining the DHI Program.

Group I dairymen in some instances wrote very complimentary remarks such as "Keep up the good work! Our DHIA Records are our most valuable tool. Our whole dairy operation revolves around these records. Using them has helped us remain in business during bad times." Most Group I respondents indicated to some degree that they would "hate to milk cows without DHIA Records" or "The testing program has been more help in finding low producing cows and has helped me more toward improving my herd than anything, it just takes longer to replace the nonprofit ones when the lending agency can't understand why the DHI cows cost more."

However, as some statements also indicated, not all Group I dairymen were completely satisfied. One wrote, "The tester should be cautioned to be careful about loud talking during the milking process, also not to smoke at a non-smoker's dairy during the milking process. I would not be interested in testing if the milk samples would have

to be sent to a central lab. I feel the samples should be tested right at the dairy." Another wrote, "I would like to see more accuracy in the feeding information."

"Testing fee is too high" was reported by some dairymen, while another commented that "should pay enough to keep a good tester."

Dairymen who have discontinued the DHI Program commented mostly about tester problems and a lack of confidence in the records as the influencing factors for their quitting. Examples of comments concerning confidence are: "The milk projections were useless, as was the irregular test dates", "Sometimes computer was programmed wrong, causing information to be way out of line on feed requirements and other areas", and "I felt records were not accurate enough to be of value because plant test was .5% above DHI test."

The lack of DHI butterfat test matching the milk plant test drew several comments. One dairyman wrote, "Our tester was running a way under the plant test." Another dairyman said, "Tester didn't seem to have enough interest in maintaining accuracy of test." Butterfat tests do go the other way sometimes. One dairyman reported, "My butterfat average from the tester was higher than plant test, but they didn't agree, but was always short on milk weight."

Some comments were reported that pertain to the association boards. An example of such comments is, "I quit the program because of tester and the board failed to recognize member's wishes." "We feel that some of these high-testing herds that never vary should be checked by state testers without warning. No director should be allowed to serve more than one term until every DHIA participant has served if he so desires", was reported as was, "We felt this was too

expensive, and we do know DHI was and is being used--not for the cow and herd but 'personal politics'."

The survey was a success from the standpoint of getting the names of prospects for the DHI Program. Approximately 20 percent of the respondents of Group III, those dairymen who had never been on test, commented that they would attend a meeting to get more information or signed the survey requesting they be called or someone visit them. Examples of such comments are: "I would like to get on the DHI Program", and "I would like very much to know more about the DHI Program."

Those comments just as forceful on the opposite side of the gamut were also received. "I am not interested in DHI" or "I am just not interested. We have too many organizations, associations, rules, and regulations. Someday we won't have farmers, we'll just have watchdogs and overseers."

Few comments concerning testers or associations were received. However, one dairyman reported, "Strangers upset my cows, and I don't want them around." Another said, "There seems to be some cheating in various herds so that the owners can win awards or say his cows are better than someone else's. I place very little faith in DHIA Records."

CHAPTER V

SUMMARY, CONCLUSIONS AND RECOMMENDATIONS

The main purpose of Chapter V is to present in a condensed form: a review of the study problem, the design and conduct of the study, and the findings most pertinent to the Dairy Herd Improvement Program in Oklahoma. Also presented are conclusions and recommendations which were formulated using the analysis and summarizations of data collected and impressions resulting from the design and conduct of the study.

Summary of the Study

Statement of the Problem

The Dairy Herd Improvement Records have been recommended as a management tool for over fifty years. However, participation in Oklahoma is currently limited to only 25 percent of the dairymen with an additional 15 percent constituting a segment having been on the program but now discontinued. Consequently, 60 percent of the state's dairymen are not now nor have ever been participants in the program.

Extension personnel, DHI Association boards of directors, and Dairy Records Computing Centers need to know: (1) the opinions which influence dairymen to join, discontinue, or never join the DHI Program,

(2) dairymen's use of the record information once received, and (3) the desired record plans or the options within testing plans that would increase dairymen's acceptance of the program.

Purpose of the Study

The primary purpose of the study was to determine (1) dairymen's opinions of the DHI Program, (2) the amount of influence various component parts have on dairymen's management decisions, and (3) the acceptance of new DHI testing plans or suggested options.

Specific Objectives of the Study

To accomplish the purpose of this study, the following objectives were met:

a. To determine dairymen's opinions of the DHI Records Program.
b. To determine dairymen's opinions of the local DHI Association and DHI Supervisor.
c. To determine if the addition and use of a central testing laboratory would improve dairymen's acceptance and validity of DHI Records.
d. To determine, in order, the priorities and the type of management information dairymen want in DHI Records.
e. To determine dairymen's acceptance of the various types of programs now available through DHI.

Hypotheses

The following hypotheses stated in the null form were tested:

1. There is no statistically significant difference among the

opinions of dairymen currently enrolled in the DHI Program, those who have discontinued, or those dairymen who have never started on the DHI Records Program toward the DHI Records Program.

2. There is no statistically significant difference among the opinions of dairymen currently enrolled in the DHI Program, those who have discontinued, or those dairymen who have never started on the DHI Records Program toward the local DHI Association and Supervisor.
3. There is no statistically significant difference among the opinions of dairymen currently enrolled in the DHI Program, those who have discontinued, or those dairymen who have never started on the DHI Records Program toward the DHI Program plans.
4. There is no statistically significant difference among the opinions of dairymen currently enrolled in the DHI Program, those who have discontinued, or those dairymen who have never started on the DHI Records Program toward the type of plan or optional information desired.

Design of the Study

The major focus of this study was to determine dairymen's opinions of the DHI Records Program which dictated the design of the survey instrument to be that of an opinion scale. Likert-type scale survey forms were developed using a continuum of five categories from "none" through "very much" to measure the level of acceptance, agreement, or influence of statements concerning various aspects of the DHI Program.

The population was those dairymen of Oklahoma who were members of the Associated Milk Producers, Inc. This membership was divided into three groups according to their participation status on the DHI Records Program.

The survey on use of record information was administered by the author at the local DHI Association annual meetings held from October, 1974, to March, 1975. The mail survey was distributed and collected during February, 1976.

Analyses of responses consisted of mean scores, distribution of respondents by categories, and an analysis of variance.

Findings of the Study

The Population

There were 1310 members of AMPI in Oklahoma representing 1250 farms. Of this number, 280 were dairymen on the DHI Records Program, constituting Group I; 157 dairymen having discontinued DHI, constituting Group II; and 873 were dairymen who had never been on DHI, constituting Group III. Survey returns from these groups amounted to: 53.9 percent (151) for Group I, 30.5 percent (48) for Group II, and 9.5 percent (83) for Group III. The overall response from the population sampled was 22.6 percent.

Table XXIV was constructed to present an overall summary of findings about the population with regard to selected descriptors. A majority of dairymen in Groups I and II were in the same age range, 41-50 years, with Group III dairymen in a 31-40 age category. There was little difference in means tabulated for the length of time

estimated to continue in the dairy business, 16.25, 16.37, and 14.9 years respectively for Groups I, II, and III.

TABLE XXIV

SUMMARY OF SELECTED DESCRIPTORS OF THE POPULATION

Description	Group I*	Group II	Group III
Age Range	41-50	41-50	31-40
Years want to continue dairying	16.25	16.37	14.90
Herd Size	85	72	68
Production level	13-14900	11-12900	9-10900
Breeding program used	>75% AI	25% Nat 75% AI	50% Nat 50% AI
% Herd Replacements Raised	> 80%	71-80%	71-80%
Source of purchased herd replacements	DHI herds and sales	DHI sales, herds with no records	Herds, no DHI

* Group I - Dairymen currently on DHI
Group II - Dairymen who have discontinued DHI
Group III - Dairymen who have never been on DHI

Milk production levels of the three groups show the results of improved management practices. Production of Group I herds was in

the 13-14900 pound category, Group II production level was estimated at the 11-12900 level, and Group III was estimated to be 9-10900 pounds. Other management practices that may influence the higher milk production of Group I were use of artificial insemination, raising a higher percent of herd replacements, and purchasing supplemental herd replacements from other tested herds. In each of these categories, mean scores ranked the groups in order of Group I, Group II, and Group III.

Dairymen's Opinions Toward the DHI Records Program

Opinions and knowledge dairymen have of the DHI Records, the association, and the supervisor influence their participation in the program. The author recognized the difficulty of determining an opinion in one area of this study without injecting a bias in another area; however, statements were divided into areas dealing with specific objectives. Where a statement was considered to affect two areas, it was included in both tables.

On the basis of information summarized in Table XXV, the author rejected hypothesis one; namely, there is no statistically significant difference among the opinions of dairymen currently enrolled in the DHI Program, those who have discontinued, or those dairymen who have never started on the DHI Records Program toward the DHI Records Program. There was a significant difference among those groups ($P<.05$) for 12 of 14 opinion measuring statements.

Comparison of group means revealed Group I opinions were significantly different ($P<.05$) from Groups II and III on 11 of 14 statements.

TABLE XXV

SUMMARY OF DAIRYMEN'S OPINIONS OF DHI

Statements	Mean Response by Group			
	Group I*	Group II	Group III	F Value
DHI testing is too expensive for value received.	0.55 (II, III)	1.61 (I)	1.62 (I)	24.77**
Individual cows should vary in butterfat content from day to day	2.26	2.02	2.13	0.66
DHI Records are a true indication of production	3.18 (II, III)	2.09 (I)	2.34 (I)	25.73**
I feel the integrity of some herd averages is questionable	1.92 (II, III)	2.98 (I, III)	2.44 (I, II)	11.53**
DHI equipment should be checked more often	1.98 (III)	1.68	1.55 (I)	2.44
Cows should not test below 3.0% butterfat	0.55 (II, III)	0.98 (I, III)	1.58 (I, II)	14.73**
I would attend a meeting to get more information on DHI	2.44 (II, III)	1.63 (I)	1.72 (I)	5.27**
DHI Records will increase the sale value of animals	3.70 (II, III)	3.18 (I)	3.00 (I)	16.71**
DHI Records increase management efficiency	3.62 (II, III)	2.81 (I)	2.75 (I)	24.32**

TABLE XXV (Continued)

Statements	Mean Response by Group			
	Group I*	Group II	Group III	F Value
I have more confidence in cows purchased from DHI herds	3.45 (II, III)	2.52 (I)	2.24 (I)	30.50**
The data needed for DHI Records is essential to any good dairy operation	3.64 (II, III)	2.88 (I, III)	2.40 (I, II)	36.84**
The DHI Program has made a tremendous contribution to the dairy industry	3.67 (II, III)	2.90 (I, III)	2.55 (I, II)	35.36**
All dairymen should have some sort of production and breeding records	3.83 (II)	3.59 (I)	3.72	4.30**
Lending agents should be made more aware of the value of DHI Records	3.49 (II, III)	2.80 (I, III)	2.30 (I, II)	28.10**

* Group I - Dairymen currently on DHI
Group II - Dairymen who have discontinued DHI
Group III - Dairymen who have never been on the DHI Program

** Statistically significant at $P < .01$.

NOTE: Roman numerals in parentheses indicate groups with which respective mean responses differ ($P < .05$).

Group II opinions differed significantly from Group I on 12 statements and Group III on five statements. Group III response to opinion statements was significantly different from Group I on 12 statements and Group II on five. Each group differed significantly from the other two in their responses to, "Integrity of herd averages is questionable", "All cows should not test below 3.0 %", "Data for DHI Records is essential to all dairy operations", "DHI has made a contribution to the dairy industry", and "Lending agents should be made more aware of the value of DHI."

Group I opinions were significantly different from Group III on "DHI equipment should be checked more often." Also, Group I opinions differed from Group II on "All dairymen should have some sort of production records."

It was found that dairymen on DHI, Group I, wanted the "equipment checked more often" than dairymen not on test, and they also have more faith in the "integrity" of herd averages than Group II or Group III dairymen. Dairymen who have discontinued testing have opinions which are more questionable about DHI than those who have never been on DHI. Group II, which has the high mean of 2.98 on "DHI Records are a true indication of production" indicate they are concerned about the validity of records.

Factors influencing dairymen to participate, discontinue, or never participate in DHI were listed in descending order of influence on the basis of weighted mean scores. The six major influencing factors causing dairymen to join the DHI Program were found to be: (1) "Desire to improve production level of herd", 3.66; (2) "Desire to cull low producing cows", 3.60; (3) Figured all information would

help in herd management", 3.41; (4) Desire to know which heifers to save", 2.76; (5) "Desired the feed cost and income/feed cost", 2.64; and (6) "Hoped to raise butterfat content of milk", 2.29.

The fifteen statements influencing dairymen to discontinue DHI could almost be summarized as "tester problems." "Too expensive for value received" and "butterfat percent was lower than plant test" tied for the most important reason with means of 1.78, or "some". The next four statements pertained to the DHI Supervisor being irregular, makes cows nervous, did not like or have faith in supervisor, etc. It is noteworthy that the mean response to none of the 15 statements included to determine why producers discontinued participation in the DHI Program was classified above the "some" category.

Lack of knowledge and understanding of DHI Records was the reason drawing the most written comments as reasons for Group III dairymen not joining DHI. However, "too expensive" and "we maintain our own production records" tabulated higher means of 2.19 and 2.12, respectively. The remainder of the statements all received an agreement rating of "little" or "none". There was a high rate of non-respondents to this section of the survey, ranging from 19 to 35 percent.

The low mean response to statements designed to determine influencing factors which cause non-participation indicates there are more important factors than those presented in this study, since the highest mean response secured to any statement was not above the "some" category of influence.

Dairymen's Opinions of the DHI Association and Supervisor

The local Dairy Herd Improvement Association's representative is the supervisor. He is the contact person in most matters and visits each member's farm every month. He usually sets the image for the association even though his opinions and actions may not be those of the board of directors.

Table XXVI summarizes the opinions of the three groups of dairymen concerning the supervisor and association. The difference of opinions among the three dairymen groups were statistically significant ($P<.01$) for six of the statements and not significantly different for five statements. Therefore, hypothesis two, "There is no statistically significant difference among the opinions of dairymen currently enrolled in the DHI Program, those who have discontinued, or those dairymen who have never started on the DHI Records Program toward the local DHI Association and Supervisor", cannot be wholly accepted or rejected. However, four of the six significantly differing statements were supervisor oriented, indicating a significant difference of opinions toward supervisors.

Comparison of group means indicated Group I dairymen had a more positive opinion of the supervisor, being significantly different from either Group II or Group III on seven opinion statements. Each group differed significantly from the other in their responses to: "Integrity of herd average", "cows should not test below 3.0%", and "the mail-in owner-sampler plan". Each group of dairymen was reluctant to place blame on the tester for butterfat test variation.

TABLE XXVI

SUMMARY OF DAIRYMEN'S OPINIONS OF DHI ASSOCIATION AND SUPERVISOR

Statement	Mean Response by Group			
	Group I*	Group II	Group III	F Value
DHI testers' meters do not always weigh accurately	1.17	1.17	0.85	1.17
Individual cows will vary in butterfat from day to day	2.26	2.02	2.13	0.66
The plant test will vary with hauler sampling accuracy	2.72	2.82	3.03	1.63
I feel the integrity of some herd averages is questionable	1.92 (II, III)	2.98 (I, III)	2.44 (I, II)	11.53**
DHI weighing equipment should be checked more often	1.98 (III)	1.68	1.55 (I)	2.44
Butterfat test would be more uniform if all were run at the Okla. DHIA, Inc. Lab with electronic Milko-tester	1.75 (II)	2.39 (I)	2.16	3.49**
The variation in butterfat test is always the tester's fault	0.62	0.59	0.48	0.55

TABLE XXVI (Continued)

Statement	Mean Response by Group			
	Group I*	Group II	Group III	F Value
DHI Associations should cover smaller areas to reduce the tester's mileage and expenses	1.04 (II)	1.76 (I, III)	1.23 (II)	7.29**
DHI testers should be paid by the hour of work instead of by the number of cows tested	0.60 (III)	0.89 (III)	1.30 (I, II)	6.73**
Cows should never test below 3.0% butterfat	0.55 (II, III)	0.98 (I, III)	1.58 (I, II)	14.73**
A mail-in owner-sampler program where the tester did not come to my farm would most suit my needs	0.40 (II, III)	1.57 (I, III)	1.39 (I, II)	19.58**

* Group I - Dairymen currently on DHI
Group II - Dairymen who have discontinued DHI
Group III - Dairymen who have never been on the DHI Program

** Statistically significant at $P<.01$.

NOTE: Roman numerals in parentheses indicate groups with which respective mean responses differ ($P<.05$).

However, Group II responses were significantly different from Group I in expressing a belief that the butterfat test would be more uniform from a central lab testing.

Written comments from respondents augmented the survey statements in pointing out supervisor problems. "Irregular service", "butterfat tests not matching plant test", and "attitude of supervisor toward the program" were the most prevalent factors affecting opinions.

In the estimation of those surveyed, apparently the awards program established by the local associations did not accomplish their intended purpose. Awards were established to promote attendance at meetings and stimulate use of records in management. There was a significant difference of opinion among the three dairymen groups on "Awards programs put too much emphasis on top cows and herds instead of overall sound management." Group I's mean response, the group winning the awards, was statistically different ($P < .05$) from Groups II or III. However, Groups II and III were not significantly different in their opinions on the average regarding the awards program.

Dairymen's Use of DHI to Make Management Decisions

Dairymen on the DHI Records Program attending the winter 1974-1975 annual association meetings were given a Likert-type scale instrument designed to assess the use of various management information in dairymen's management decisions.

The mean scores, tabulated for the amount of influence of each management factor of the monthly Individual Cow Report, were used to

rank the factors as to priority of use in order of use. The priority of use was found to be as follows:

1. Lactation to date, days-milk-fat
2. Test day milk-fat
3. Due Date
4. Difference from herdmates
5. Lactation to date-income/feed cost
6. Test day income/feed cost
7. Persistency
8. Test day fat pounds

The management options list, mostly purchased by large herd owners, had a use priority as follows:

1. Management Option Package
    a. Cows to dry
    b. Cows to breed
    c. Low cow list
    d. Cows to pregnancy check
    e. Cows to lead feed-due
2. Culling Guide

The order of confidence in the various segments of DHI Records were:

1. Milk and fat
2. Genetic evaluation
3. Feed data

Dairymen's Acceptance of New DHI Record Plans

There are nearly 29,000 cows on the DHI Program in Oklahoma. The standard, or Official DHI, plan is the most popular with dairymen, having approximately 80 percent of the cows. Official DHIR for registered cows has 12 percent and the unofficial, or owner-sampler, plan has 8 percent. New plans have been developed and made available, but have gained little acceptance. Data were collected to determine levels of acceptance of several of these new plans. A summary of the findings in this regard is presented in Table XXVII.

The author rejected hypothesis three, "There is no statistically significant difference among the opinions of dairymen currently enrolled in the DHI Program, those who have discontinued, or those dairymen who have never started on the DHI Records Program toward the DHI Program plans." The hypothesis was rejected because of highly significant differing opinions ($P<.01$) among groups on five of seven testing plans and among groups ($P<.05$) on each plan. There was no significant difference among groups in acceptance of the Owner-Sampler plan.

Opinions of the four new plans yielded means which indicated "little" acceptance by Groups I or II. Group III differed significantly from Groups I and II by expressing higher degrees of acceptance of Standard DHI, Supervised AM-PM, Supervised Milk-Only, Owner-Sampler AM-PM, and Owner-Sampler Milk Only. Group II was less favorable than Group I in acceptance of Standard DHI and Official DHIR plans.

TABLE XXVII

SUMMARY OF DAIRYMEN'S ACCEPTANCE
OF DHI TESTING PLANS

Testing Plan	Mean Response by Group			
	Group I*	Group II	Group III	F Value
Standard DHI	3.71 (II, III)	2.87 (I, III)	2.42 (I, II)	33.52***
Official DHIR	2.71 (II, III)	2.03 (I)	1.73 (I)	8.32***
Owner-Sampler	1.84	2.28 (III)	1.74 (II)	1.68
Supervised AM-PM	1.00 (III)	0.91 (III)	1.83 (I, II)	8.12***
Supervised Milk Only	0.63 (III)	0.73 (III)	1.06 (I, II)	3.19**
Owner-Sampler AM-PM	0.63 (III)	0.66 (III)	1.51 (I, II)	11.58***
Owner-Sampler Milk Only	0.61 (III)	0.63 (III)	1.30 (I, II)	7.79***

* Group I - Dairymen currently on DHI
Group II - Dairymen who have discontinued DHI
Group III - Dairymen who have never been on DHI

** Significant at $P<.05$.

*** Significant at $P<.01$.

NOTE: Roman numerals in parentheses indicate groups with which respective mean responses differ ($P<.05$).

Dairymen's Opinions of Optional Segments to DHI Plans

Dairymen currently on the DHI Records Program agreed only at the "some" level (mean of 2.00) to "The DHI Program should have a very basic plan with a wide selection of options so dairymen could pick what they want." Group I also had no other mean score that would indicate that they wanted a change from the present DHI Records system as illustrated in Table XXVIII.

Group II and Group III dairymen had a "some" level of agreement for each segment suggested as an option. Group III had the highest mean on each of the items representing an optional segment with the most agreement being on, "The feed data should be optional."

There was a significant difference in the opinions among the three dairymen groups ($P<.01$) for each statement designed to determine dairymen's opinions of optional data. Group I opinions yielded among group differences ($P<.05$) from Groups II and III on each of the 10 statements. Group II was significantly different from Group III on three statements. The three option statements in which each group differed significantly from the other were:

1. "Feed data should be optional."
2. "Collection and calculation of all individual cow butterfat percentage should be optional."
3. "Feed cost and income/feed cost should be optional."

On the basis of data collected, the author rejected hypothesis four, "There is no statistically significant difference among the opinions of dairymen currently enrolled in the DHI Program, those who

TABLE XXVIII

SUMMARY OF DAIRYMEN'S OPINIONS OF OPTIONAL SEGMENTS OF DHI PLANS

Statement	Mean Response by Group			
	Group I*	Group II	Group III	F Value
The DHI Program should have a very basic plan with a wide selection of options so dairymen could pick what they want	2.00 (II, III)	2.53 (I)	2.75 (I)	6.58**
The feeding data should be optional	1.12 (II, III)	1.78 (I, III)	2.43 (I, II)	17.20**
Breeding records should be optional	0.94 (II, III)	1.81 (I)	2.02 (I)	14.21**
The difference from herdmates should be optional	1.09 (II, III)	2.03 (I)	2.13 (I)	14.08**
The 305-ME Projected Records should be optional	0.79 (II, III)	1.68 (I)	1.93 (I)	17.02**
The ranking of cows according to producing ability should be optional	1.29 (II, III)	1.92 (I)	1.82 (I)	4.26**
Collection and calculation of all individual cow b.f.% should be optional	0.72 (II, III)	1.32 (I, III)	1.92 (I, II)	16.44**
The feed cost and income over feed cost should be optional	0.75 (II, III)	1.42 (I, III)	1.95 (I, II)	15.50**

TABLE XXVIII (Continued)

Statement	Mean Response by Group			
	Group I*	Group II	Group III	F Value
A mail-in owner-sampler program where the tester did not come to my farm would most suit my needs	0.40 (II, III)	1.57 (I)	1.39 (I)	19.58**
I would like a program that only required weighing and recording one milking/month	0.26 (II, III)	1.74 (I)	1.52 (I)	28.25**

* Group I - Dairymen currently on DHI
Group II - Dairymen who have discontinued DHI
Group III - Dairymen who have never been on the DHI Program

** Statistically significant at $P<.01$.

NOTE: Roman numerals in parentheses indicate groups with which respective mean responses differ ($P<.05$).

have discontinued or those dairymen who have never started on the DHI Records Program toward the type of plan or optional data information desired."

Conclusions

Analysis and interpretation of the study findings contributed to the formulation of certain conclusions by the author. These conclusions are:

1. The Dairy Herd Improvement Records Program provides dairymen with information necessary for sound management of their herds.

2. Dairymen on DHI have faith and confidence in the program, want official records, want to be tested regularly with accurate meters, and utilize the data received to make management decisions.

3. Dairymen who have discontinued DHI believe in the concept and value of DHI Records; however, they would apparently rather discontinue testing than be involved with tester problems or discrepancies.

4. Dairymen never participating in DHI realize the program has value in herd management; however, they were not aware of all aspects of use or available plans.

5. The present DHI Records Program plans provide satisfactory variations to meet the desires of Oklahoma dairymen.

6. Accuracy of DHI Records and the acceptance thereof is dependent on the accuracy of the equipment used and the integrity of the supervisor and dairymen.

7. Variation in butterfat percentage between DHI Records and the

milk plant is the most prevalent cause of dairyman dissatisfaction with the DHI Program.

8. Supervisor's attitude toward the records program, his work habits and punctuality are major factors influencing dairymen to discontinue the DHI Program.

9. This study did not adequately answer the questions concerning dairymen's discontinuance or never participating in the DHI Records Program. Although much valuable information concerning dairymen's DHI participation status was revealed, no responses above a "some" level to statements concerning reasons for discontinuance or never participating in the program serve as indicators that some other underlying factors have more effect on the participation status of dairymen.

Recommendations

1. Extension personnel at the state, district, and county level need to work more diligently on educational programs to inform dairymen not on the DHI Records Program about its benefits.

2. Dairymen on DHI should do whatever is necessary to improve and/or maintain the image of the program from the standpoint of accuracy, validity of records, and utility value in herd management.

3. An educational program should be provided to dairymen on DHI to improve their understanding of records received and methods of application to management problems.

4. A method of checking the accuracy of milk weighing and sampling equipment as well as butterfat tests should be developed and put into use for periodic checks to maintain accuracy and

and integrity of records.

5. DHI Associations must provide adequate guidance and control over their supervisors to insure adequate service to their members.

6. The DHIA Supervisors must improve their attitude toward the records program, including the accuracy of information, calibration of equipment, and the dependability of schedule.

7. Records Processing Centers, Dairy Extension personnel, and NDHIA should provide optional plans so dairymen have available information to fit their management system.

Recommendations for Additional Research

DHI Records Programs have been available in Oklahoma for approximately fifty years with extension sponsorship, yet not "being informed" was a high-ranking reason for dairymen not being on DHI. Research should be conducted to determine the type of educational program most effective in reaching dairymen not using DHI Records.

Another research project that would give accountability to DHI Records would be to test a random sample of herds periodically to determine the correlation between bulk tank sales weights on test days and DHI weights to determine meter accuracy.

Continued research is necessary to determine more specifically the true underlying factors influencing dairymen's decisions to discontinue or never participate in DHI.

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APPENDIXES

APPENDIX A

SAMPLE COPIES OF DAIRY HERD IMPROVEMENT RECORDS FROM IOWA STATE UNIVERSITY COMPUTING CENTER

HERD OWNER'S COPY

DHIA-200

DAIRYMAN, JOHN A

INDIVIDUAL COW REPORT

OFFICIAL DHI (TYPE OF TEST)

DAIRY HERD IMPROVEMENT RECORD

42-85-0027 (HERD CODE)

42-85-0027 (HERD CODE) GH (BREED)

UPTUNS

MIDWEST USA 55555

PAGE NO. 1

TEST PERIOD FROM 3-22 THROUGH 4-18

ASSOC. SUPVR. PLM: 15 PM NO

DATE TESTED MO.	DAY	YR	LENGTH OF TEST PERIOD	DATE RECEIVED	DATE MAILED	MILK PRICE $	¢	BF%	DIFF.	MAN HOURS
4	18	72	28	4-21	4-22	5	68	3.5	.07	015

DAILY AVG. PER COW		CONCENTRATES FIND	$/TON	POUNDS AS FED	% PROT	DRY FORAGE POUNDS	KIND	$/TON	POUNDS AS FED	% PROT	SUCCULENTS OR COMPLETE FEED POUNDS	KIND	$/TON	POUNDS AS FED	% PROT	% D M	$/TON (SOYB OR SORG SIL)	ADDITIONAL SUCCULENTS OR OTHER FEED POUNDS	KIND	POUNDS AS FED	% PROT	% D M	PASTURE KIND
FEEDING GROUPS	A	1	60	74	15	13	1	28	44	13	055	4	50	08	25	07							
	B	1	60	74	15	13	1	28	44	13	055	4	50	08	25	07							
	C	1	60	74	15	12	1	25	40	11													1

COW INDEX NUMBER	REGISTRATION OR EARTAG NUMBER	BREED	TEST DAY DATA: MILK	FAT %	FAT POUNDS	INCOME OVER FEED COST $	ACTION NEEDED	CONCENTRATES FED	CONCENTRATES IND.	FEED GROUP	BARN NAME	STATUS CODE	LACTATION TO DATE: LACT NO	DAYS DRY	CALVING DATE MO.	CALVING DATE DAY	AGE YRS	AGE MOS.	BODY WEIGHT 10 LBS	DAYS	MILK	FAT %	FAT POUNDS	INCOME OVER FEED COST $	COND AVG REC	PERSISTENCY	305-2X-ME MILK	305-2X-ME FAT	DIFFERENCE FROM HERDMATES MILK	DIFFERENCE FROM HERDMATES FAT	DUE DATE
1	4814123	H	44.0	3.7	1.6	1.68		18	14	B	1		1	6	66	8-20	7	03	135	240	13590	3.6	493	388		101%	15620	567	+260	+36	9*07
3	48VEH6947	H	48.3	3.4	1.6	1.80	P	19	15	A	3		1	6	62	6-29	7	07	135	292	21720	2.9	638	683		101%	22150	650	+6890	+120	11-05
7	48WHK2022	H	21.1	4.0	.8	.69		9	4	B	7		1	2	57	9-08	3	06	125	221	8530	3.6	307	256		97%	11660	412	-3760	-122	9-05
9	48VJR9469	H	77.5	2.6	2.0	2.69	B	31	28	A	9		1	2	89	2-09	3-06	115	67	4820	2.7	128	105			18840	491	+2390	-96	
11	48WHK4720	H	49.3	3.0	1.5	1.72	B	20	15	A	11		1	2	63	9-15	3-10	125	214	13190	3.2	428	435		102%	17820	567	+2490	+36	
12	48WHG5898	H	61.0	3.0	1.8	2.19	P 5-19	25	21	A	12		4	2	55	9-06	4-00	125	223	14850	2.8	423	455		102%	19220	537	+3910	+5	1-11
15	48WHH1377	H	26.3	4.1	1.1	.98	D 5-13	11	10	B	15		1	1		5-19	2-09	115	333	15540	3.4	523	526			.17630	574	+2300	+43	7-11
16	48WHG5871	H	31.8	4.3	1.4	1.28	D 6-13	13	10	B	16		1	2	58	8-12	3-11	125	248	14380	3.4	495	484		99%	17540	592	+2210	+61	8-11
17	48VII8216	H	82.3	2.9	2.4	3.01	B	33	31	A	17		1	3	66	1-27	4-09	130	80	5750	3.4	197	171		103%	17520	594	+1040	+10	
20	48WHI6619	H	36.0	3.1	1.1	1.23		15	13	B	20		1	1		9-06	1-11	105	223	8860	3.4	300	297		101%	14170	472	-1210	-61	9*07
25	48WHE0520	H	66.8	2.8	1.9	2.33	P 5-20	27	22	A	25		4	4	109	12-16	5-09	130	122	8390	3.4	285	227		103%	17110	575	+620	-10	1-12
38	48WHH1376	H				-.56	F 5-04	6	3	C	38		3	1	30	4-11	2-09	120					-17			20770	590	+4850	+35	5-18
71	48WHH3633	H	95.0	3.4	3.2	3.86	P	38	42	A	71		1	4	73	2-03	5-10	130	73	5470	3.4	186	159		118%	17620	599	+1140	+15	12-12
76	48WHZ0131	H	90.0	3.0	2.7	3.38	P	36	36	A	76		1	4	53	12-09	6-06	135	129	11890	3.5	420	425		102%	22590	798	+6240	+219	11-17
84	48WHK9338	H	18.3	4.8	.9	.68	B	8	5	B	84		1	1		4-06	2-05	115	376	16250	3.4	554	543			.17960	583	+2000	+28	
85	48WHH8777	H				-.65	F 5-17	12	3	B	85		3	1	2	5-19	2-10	115					-1			.11680	461	-3740	-72	5-31
90	48WHH3871	H	32.5	3.7	1.2	1.22		13	11	B	90		1	1		8-29	2-07	110	231	8240	4.0	327	296		101%	12360	478	-3050	-55	9-17
91	48WHH1320	H	79.5	3.6	2.9	3.30	B 5-23	32	34	A	91		2	2	44	3-24	3-10	125	23	1830	3.6	66	52							
96	48WHH1317	H	85.5	3.1	2.7	3.27	B 5-09	34	34	A	96		1	2	61	3-10	3-11	130	37	2850	3.4	96	76							
98	48VJT5425	H				-.67	F 6-03	12		B	98		3	2	2	6-15	3-10	125					-1			16880	539	+1540	+7	6-17
100	48WHH2012	H	35.8	4.7	1.7	1.61	F 5-22	14	20	B	100		1	2	46	4-03	3-01	120	379	19390	3.9	762	713			.19670	756	+3730	+204	6-05
103	48WHH1318	H				-.65	F 5-26	12	1	B	103		3	1	2	7-01	3-02	115					-1			12780	414	-2630	-120	6-09
104	48WHH4671	H	59.1	4.4	2.6	2.67	B 6-02	25	25	A	104		2	2	3	4-03	3-05	125	13	770	4.4	34	43							
106	48WHH0244	H	76.8	4.2	3.2	3.48	B	31	35	A	106		1	3	68	12-24	4-07	130	114	8950	4.5	405	352		103%	19920	884	+3500	+307	
111	48WHH9107	H	43.0	4.2	1.8	1.81	B 6-11	18	16	A	111		6	1		4-12	2-07	120	4	170	4.2	7	7							
113	48WHH0809	H	84.3	3.7	3.1	3.56	B 5-07	34	37	A	113		1	5	59	3-08	6-08	130	39	3080	3.6	110	86							
117	6213794	H	60.1	3.1	1.9	2.23	P	24	21	A	117		1	3		10-13	5-07	140	86	6420	3.9	248	65	X		.				11-08
139	48WHF9361	H				-.66	F 6-04	12		B	139		3		2	6-09	4-01	120					-1			15630	443	+270	-90	6-18
140	48WHG0296	H				-.66	F 6-03	12		B	140		3		2	4-23	4-03	120					-1			17660	626	+1700	+72	6-17
144	48VJT5431	H				-.67	F 5-25	12	1	B	144		3	2	2	3-24	3-07	125					-1			23630	737	+7740	+184	6-08
145	48WHH9115	H	51.5	2.9	1.5	1.81	B 6-06	20	17	A	145		6	1		4-07	2-07	120	9	460	2.9	13	16							
147	48WHM3178	H	39.9	3.7	1.4	1.43	B 6-07	18	13	A	147		6	1		4-08	2-07	120	8	310	3.7	12	11							
151	7463604	H	59.5	2.9	1.7	2.10	B 4-26	24	20	A	NANCY		1	1		2-26	2-06	125	50	3130	2.2	70	90			20020	440	+3600	-148	

*** THIS IS A SAMPLE HERD—ONLY 33 OF THE 135 COWS ARE LISTED ***

DHIA-202 A

42-85-0027 (HERD CODE) DAIRYMAN, JOHN A (NAME) 15 (ASSOC.) PM (SUPVR.)

DAIRY HERD IMPROVEMENT RECORD

LACTATIONS AND IDENTIFICATIONS

4-72 (MONTH-YEAR) OFFICIAL DHI (TYPE OF TEST) 42-85-0027 (HERD CODE)

COW IDENTIFICATION

76	76	48WHZ0131 H	6-25-65	1241427 H	48OCV1939 H	---		CORRECTED IDENTIFICATION - CHECK FOR ACCURACY												
84	84	48WHK9338 H	11-00-68			1		1	4-06-71	2-05	115		365	16050	3.4	544	536		17960	583
85	85	48WHK8777 H	7-15-68	1261857 H	48WHG1815 H	3	4-17	1	5-19-71	2-10	115		331	10410	4.1	423	353	235	11680	461
98	98	48VJT5425 H	8-27-67	1388721 H	48ABG7708 H	3	4-17	2	6-15-71	3-10	125	48	304	15490	3.3	504	483	218	16880	539
100	100	48WHH2012 H	3-16-68	1240549 H	48WHE0565 H	1		2	4-03-71	3-01	120	46	365	18890	3.9	738	690	218	19670	756
103	103	48WHH1318 H	5-03-68	1350414 H	48WHE1811 H	3	4-17	1	7-01-71	3-02	115		288	10890	3.3	359	337	226	12780	414
104	104	48WHH4671 H	11-14-68	1439097 H	48VDO3387 H	3	4-03	2	4-05-71	2-05	115		361	15630	3.9	605	562			
111	111	48WHH9107 H	9-27-69	1529566 H	48WHF8178 H	---		NEW COW IDENTIFICATION - CHECK FOR ACCURACY												
139	139	48WHF9361 H	5-03-67	1496145 H	48WHA9045 H	1			6-09-71	4-01	120	57	305	14750	2.9	426	418	212	15630	443
139	139	48WHF9361 H	5-03-67	1496145 H	48WHA9045 H	3	4-17		6-09-71	4-01	120	57	310	14870	2.9	430	420	217	15630	443
140	140	48WHG0296 H	1-00-67	1439097 H	48VDQ3653 H	3	4-17		4-23-71	4-03	120	47	357	18240	3.6	658	626	218	17660	626
143	143	48WHG0289 H	2-18-67	1330597 H	48WHG0285 H	5	3-31	3	8-09-71	4-06	125	82	233	10500	3.1	321	260 L	181	12890	386
144	144	43VJT5431 H	8-11-67	1413165 H	48WHG1816 H	1		2	3-24-71	3-07	125	66	365	24050	3.2	781	816	205	23630	737
144	144	43VJT5431 H	8-11-67	1413165 H	48WHG1816 H	3	4-17	2	3-24-71	3-07	125	66	387	24920	3.3	815	847	227	23630	737
145	145	48WHH9115 H	9-08-69	1439097 H	48WHE0520 H	---		NEW COW IDENTIFICATION - CHECK FOR ACCURACY												
147	147	48WHM3178 H	9-00-69			---		NEW COW IDENTIFICATION - CHECK FOR ACCURACY												

DHIA-202 B

HERD SUMMARY

DAIRY HERD IMPROVEMENT RECORD

42-85-0027 (HERD CODE) DAIRYMAN, JOHN A (NAME) 3-22 THRU 4-18 (TEST INTERVAL) 28 (DAYS) OFFICIAL DHI (TYPE OF TEST)

OPTIONS RECD. 4-21 MAILED 4-22

FEED AMOUNTS	CONCENTRATES				DRY FORAGE		SUCCULENTS		PASTURE	
GROUP	POUNDS FED	% N. E.	POUNDS NEEDED	PRO. NEEDED	POUNDS FED	% N. E.	POUNDS FED	% N. E.	DAYS	% N. E.
A	23	58	21	14	13	18	55	24		
B	13	44	9	9	13	24	55	32		
C	6	23	2		12	22			28	55
PER COW ON TEST DAY	18	51	15		13	21	53	26	1	2
AVG. ANNUALLY PER COW	6355				4266		12041		27	

COSTS AND RETURNS	CONCENTRATE COSTS $	FORAGE COSTS $	TOTAL FEED COSTS $	VALUE OF PRODUCT $	INCOME OVER FEED COST $
A	.70	.31	1.01	3.16	2.15
B	.39	.30	.69	1.64	.95
C	.18	.40	.58	.00	-.58
PER COW ON TEST DAY	.55	.31	.86	2.40	1.58
AVG. ANNUALLY PER COW	197.63	139.31	336.94	838.62	501.68

EFFICIENCY EVALUATIONS	FEEDING INDEX	BODY WEIGHT	RATE OF FORAGE	POUNDS DRY MATTER PER BODY CWT	N.E. IN TOTAL RATION D.M.	PERSISTENCY	FEED COST PER CWT. MILK
A	106	1250	2.3	3.7	63	101	1.80
B	116	1190	2.4	3.1	58	100	2.50
C	119	1260	2.7	2.8	51		.00
THIS TEST DAY	111	1220	2.4	3.4	60	101	2.03
ANNUALLY			2.5	3.1	51	100	2.18

PRODUCTION	COWS	% IN MILK	MILK POUNDS	% FAT	FAT POUNDS	% PLM	PLM POUNDS	
A	74	96	56.5	3.4	1.9			TESTS IN LAST 365 DAYS
B	55	84	27.7	3.8	1.1			12
C	6			.0	.0			COW MONTHS
THIS TEST DAY	135	87	42.23	3.49	1.48			118.7
ROLLING 365 DAYS	123.03	85	15447	3.57	552			DATE TESTED 4-18-72

Cooperative Extension Service
IOWA STATE UNIVERSITY
Ames, Iowa 50010

1 HERD OWNER'S COPY

Dairy Science
4 Kildee Hall

	CURRENT PERIOD	LATEST 365 DAYS
COW DAYS ON TEST	3,611	44,906
MILK, LBS.	152,490	1,900,400
FAT, LBS.	5,330	67,910
$ VALUE OF PRODUCT	8,667	103,175
$ FEED COST	3,105	41,454
$ INCOME OVER FEED COST	5,562	61,721
NO. OF WORKERS	42.0 MAN DAYS	1.9 MAN YEARS

42-85-0027 15 PM

DAIRYMAN, JOHN A

MIDWEST USA 55555

Dear Cooperator:

Enclosed are your most recent Dairy Herd Improvement Association records, including performance, feeding, management and breeding information, with summaries and evaluation aids.

Please examine these reports carefully. Explanations may be found on the reverse side of each sheet.

Very truly yours,

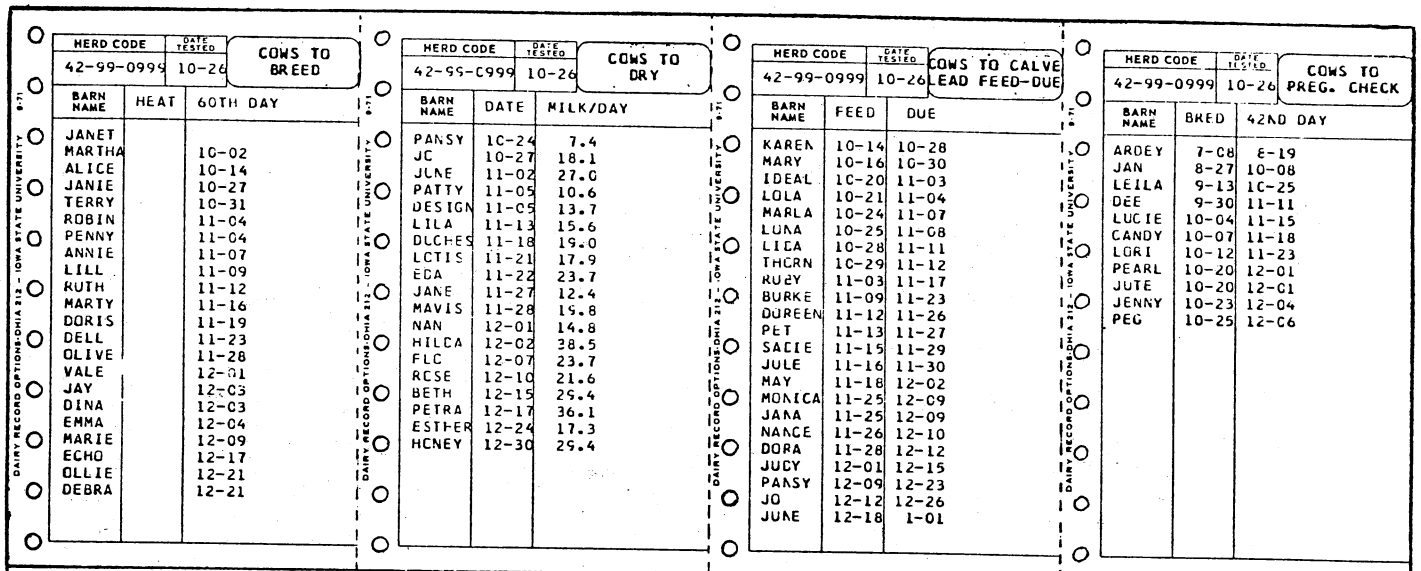
Donald E Voelker

Extension Dairyman (Production)

SPECIAL HERD MANAGEMENT LISTS (OPTIONAL)

The following four special herd management lists are optional and available to any herd in the DHIA program for the additional cost of 2 cents per cow month. Herds may be enrolled on the program any time by using the enrollment form provided for that purpose. Herds so enrolled will receive these management lists along with their routine reports continuously without having to re-enroll. Herds wishing to drop these optional lists will have an opportunity to do so once a year.

These optional lists will be of great value to the larger herds. They will have little value for herds of less than 40 cows since these herds already have all cows on one page of the routine report.



DAIRY RECORD OPTIONS-DHIA 312 - IOWA STATE UNIVERSITY 8-71

HERD CODE 42-99-0999 | DATE TESTED 10-26 | COWS TO BREED

BARN NAME	HEAT	60TH DAY
JANET		
MARTHA		10-02
ALICE		10-14
JANIE		10-27
TERRY		10-31
ROBIN		11-04
PENNY		11-04
ANNIE		11-07
LILL		11-09
RUTH		11-12
MARTY		11-16
DORIS		11-19
DELL		11-23
OLIVE		11-28
VALE		12-01
JAY		12-03
DINA		12-03
EMMA		12-04
MARIE		12-09
ECHO		12-17
OLLIE		12-21
DEBRA		12-21

DAIRY RECORD OPTIONS-DHIA 312 - IOWA STATE UNIVERSITY 8-71

HERD CODE 42-99-0999 | DATE TESTED 10-26 | COWS TO DRY

BARN NAME	DATE	MILK/DAY
PANSY	10-24	7.4
JC	10-27	18.1
JUNE	11-02	27.0
PATTY	11-05	10.6
DESIGN	11-05	13.7
LILA	11-13	15.6
DUCHES	11-18	19.0
LCTIS	11-21	17.9
EDA	11-22	23.7
JANE	11-27	12.4
MAVIS	11-28	19.8
NAN	12-01	14.8
HILDA	12-02	38.5
FLC	12-07	23.7
ROSE	12-10	21.6
BETH	12-15	29.4
PETRA	12-17	36.1
ESTHER	12-24	17.3
HONEY	12-30	29.4

DAIRY RECORD OPTIONS-DHIA 312 - IOWA STATE UNIVERSITY 8-71

HERD CODE 42-99-0999 | DATE TESTED 10-26 | COWS TO CALVE LEAD FEED-DUE

BARN NAME	FEED	DUE
KAREN	10-14	10-28
MARY	10-16	10-30
IDEAL	10-20	11-03
LOLA	10-21	11-04
MARLA	10-24	11-07
LUNA	10-25	11-08
LICA	10-28	11-11
THORN	10-29	11-12
RUBY	11-03	11-17
BURKE	11-09	11-23
DUREEN	11-12	11-26
PET	11-13	11-27
SADIE	11-15	11-29
JULE	11-16	11-30
MAY	11-18	12-02
MONICA	11-25	12-09
JANA	11-25	12-09
NANCE	11-26	12-10
DORA	11-28	12-12
JUDY	12-01	12-15
PANSY	12-09	12-23
JO	12-12	12-26
JUNE	12-18	1-01

DAIRY RECORD OPTIONS-DHIA 312 - IOWA STATE UNIVERSITY 8-71

HERD CODE 42-99-0999 | DATE TESTED 10-26 | COWS TO PREG. CHECK

BARN NAME	BRED	42ND DAY
ARDEY	7-08	8-19
JAN	8-27	10-08
LEILA	9-13	10-25
DEE	9-30	11-11
LUCIE	10-04	11-15
CANDY	10-07	11-18
LORI	10-12	11-23
PEARL	10-20	12-01
JUTE	10-20	12-01
JENNY	10-23	12-04
PEG	10-25	12-06

	COWS TO BREED A list of cows to be bred.	COWS TO DRY A list of cows to be dried off.	COWS TO CALVE LEAD FEED-DUE A list of cows to calve and for lead feeding.	COWS TO PREG. CHECK A list of cows that have been bred - to be checked for pregnancy.
COWS LISTED IN ORDER BY ...	Date calved	Date Due	Date Due	Date bred
WHEN ARE COWS PUT ON LIST?	When they have calved, or, when diagnosed open by pregnancy check.	120 days before due.	60 days before due.	When breeding date is reported
WHEN ARE COWS REMOVED?	When breeding date is reported.	When reported dry.	When calving date is reported.	When pregnancy check results are reported or 120 days have elapsed since bred.
WHAT DATES ARE LISTED?	60th day after calving. No date for cows previously bred and now diagnosed open.	60th day before due.	Due date and also a date to begin lead feeding - 2 weeks before due.	Date bred and 42nd day after bred.
WHAT ADDITIONAL INFORMATION IS LISTED?	None - space for recording heat dates.	Latest test day milk production.	None	None - Space for recording pregnancy diagnosis.

Herd Management Options -- Low Cow List

The Low Cow List is the next option to be developed with the fall of 1972 as the likely time for this option to be made available to dairymen.

There will be four items listed. These are:

1. 305-2x-ME milk for the current lactation.
2. Difference from herdmates for milk on the current lactation.
3. Daily income over feed cost for the current test day.
4. Daily milk pounds for the current test day.

The dairyman may choose one of the four criteria listed above and in addition, may designate the level below which his cows are to be listed. The cows below that level will be listed from poorest to best. In other words the low cows will be ranked on the criterion the dairyman chooses. The word "RANK" will appear at the head of that column. The level or limit below which the cows are to be listed will be printed at the bottom of the low cow list.

DAIRY RECORD OPTIONS-DHIA 212 - IOWA STATE UNIVERSITY 9-71

HERD CODE	DATE TESTED	LOW COWS DIFF/HMATES		
42-99-0999	2-10			
BARN NAME	305-ME MILK	DIFF HMATES	DAILY I/FC	DAILY MILK
		RANK		
LADY	8260	-6410	.21	18.5
MODEL	9060	-3860	.46	21.0
VERNA	9150	-3760	.33	22.0
FERN	9700	-3200	.64	26.5
KAREN	9740	-3160	.45	22.0
ELLIE	10020	-2870	.55	23.3
FAIRY	10130	-2760	.20	14.5
ABBY	12120	-2310	.10	15.5
RHONDA	11020	-2290	.99	33.5
JEANNE	12310	-2110	.76	27.0
CANDY	10830	-2030	1.12	35.0

LIMIT PROVIDED WAS -2000.

Practical Interpretation of the Culling Guide

The culling guide is designed to allow meaningful comparisons between cows rather than to assign exact dollar values to the cows. The number of cows that are listed on the Culling Guide may vary from none to almost half the herd. On the average about a third of the cows are listed. This means that about a third of the cows are shown for comparative purposes and not that this many of the cows should be culled!

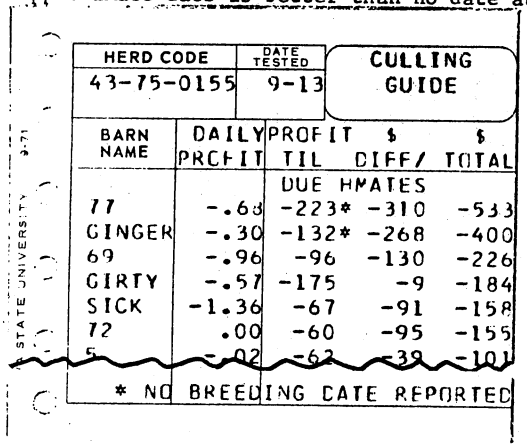
Daily Profit shows whether or not the cow is profitable today. Avoid culling cows that are currently profitable. Even a dime a day is profit if the "other costs" figure the dairyman put into the culling guide included labor. In other words, a dairyman can afford to "fool" with a cow for a dime a day if all expenses are accounted for. After the decision is made to cull a cow, she should be sold as soon as her Daily Profit turns negative.

Profit Til Due will be negative for all dry cows and for most cows in the late stages of lactation. It is a conservative and somewhat rough estimate of how much it will cost to keep a cow until she freshens again. Cows that are not producing well and that have a long time to go before freshening will show up with a large negative dollar figure here. An asterisk here means that no breeding date has been reported or she has been reported "open" on the barn sheet. Such cows are assumed to be due to freshen in 300 days.

Dollar Difference From Herdmates shows the estimate of how a cow's production is likely to compare with her herdmates, on a dollar basis, if she is kept for another lactation. A negative figure here does not mean that this cow is likely to lose money. Instead, it says that this cow is not likely to be as profitable as the average cow in the herd. This is a good means of comparison that shows essentially how good a producer is each cow listed on the culling guide.

Dollar Total is the overall comparison of the cows. It has meaning only in a sense of allowing a comparison between cows. It does not say how profitable the cow will be if kept through her next calving and the following lactation. This would be true only if the average cow in the herd is just a break-even cow. It is a fair comparison between cows. All negative cows are listed and the largest negative is the most likely candidate to cull.

To make the best use of your culling guide you must report all breeding dates. Even an approximate date is better than no date at all if cows are pasture bred.



HERD CODE	DATE TESTED	CULLING GUIDE
43-75-0155	9-13	

BARN NAME	DAILY PROFIT	PROFIT TIL DUE	$ DIFF/ HMATES	$ TOTAL
77	-.63	-223*	-310	-533
GINGER	-.30	-132*	-268	-400
69	-.96	-96	-130	-226
GIRTY	-.57	-175	-9	-184
SICK	-1.36	-67	-91	-158
72	.00	-60	-95	-155
5	-.02	-62	-39	-101

* NO BREEDING DATE REPORTED

STATE UNIVERSITY 9-71

Dairyman designates the following:

I. All costs other than feed cost per cow day for milking cows.
A. $.40 B. $.55 C. $.70 D. $.85
E. $1.00

II. Total daily cost per dry cow including feed cost.
A. $.50 B. $.75 C. $1.00
D. $1.25 C. $1.50

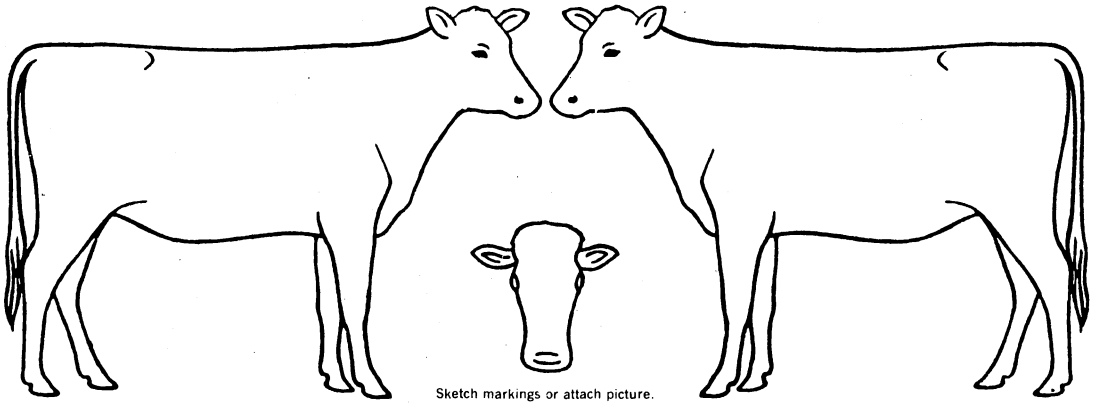
DHIA-205 LIFETIME HISTORY OF INDIVIDUAL COW

72 Start this record on the heifer calf at birth and maintain for the lifetime of the animal.

Identification Numbers

Cow Name		Reg. No.		Index No.	
		Ear-tag		Barn Name	
Sire				Tattoo No.	
Dam				Birth date	
				Breed	
				Dam's Index	

← Place printed identification label here →



Sketch markings or attach picture.

Heifer Record

(List all treatments and conditions prior to first freshening of this heifer.)

Date	Condition	Remarks	Date	Condition	Remarks
	Calfhood vaccination				

Type and Management Traits

(Complete this section after heifer has freshened and information is available.)

Milking Speed	Fast	Average	Slow
Disposition	Quiet	Nervous	Ornery
Ketosis, Milk Fever	None	Light	Severe
Mastitis	None	Some	Chronic
Udder Edema	Light	Moderate	Severe

Outstanding qualities:

Main faults:

Classification

Date	FS		DC	B	M	St	Hd	FE	Bk	Rp	HL	Ft	FU	RU	US	Qy	Tt	Mc

Purchased from _____ Date _____ Price _____

Date left herd _____ Reason _____

Sold to _____ Price _____

Jan.	Feb.	Mar.	Apr.	May	June	July	Aug.	Sept.	Oct.	Nov.	Dec.

Index	
Name	

Breeding and Calving Record

Date Calved	Heat Dates	1st Service	2nd Service	3rd Service	4th Service	Sire used	Confirmed Pregnant	Date Calved	Sex of Calf	Eartag No. or Disposal
(heifer)										

Reproductive Problems

Date	Condition	Treatment

Mastitis and Other Problems

Date	Condition	Treatment

HERD RANKING and SUMMARY

[redacted]

RANKING OPTION
Ranked on EPA for MILK

JOHN A DAIRYMAN 08
R R 3
MIDWEST, USA 55555

DyS-971
3 99-85-0027

PRODUCTION FIGURES ARE 305-2X-ME LACTATIONS DEVIATED FROM THE HERDMATE AVERAGE (WITHIN BREED, HERD, AND YEAR-SEASON).

Cow No.	Sire No.	Paternal Sisters No.	Paternal Sisters Rec's.	Paternal Sisters Milk	Paternal Sisters Fat	Dam No.	Dam Rec's.	Dam Milk	Dam Fat	Maternal Sisters No.	Maternal Sisters Rec's.	Maternal Sisters Milk	Maternal Sisters Fat	Daughters No.	Daughters Rec's.	Daughters Milk	Daughters Fat	Cow Rec's.	Cow Milk	Cow Fat	Index No.	Barn Name	Estimated Producing Ability Milk	Estimated Producing Ability Fat	Estimated Av. Transmitting Ability Milk	Estimated Av. Transmitting Ability Fat	*
HOLSTEIN																							RANK				
5235343	1290741	19	3.5	+530	+15	4348861	6	+4241	+186	23.5	+3680	+130		12.0	+2196	+93		5	+4933	+179	147	LOTIS	+4094	+148	+1375	+51	
5235350	1334641	45	2.0	+626	+29	4317905	4	+3134	+122									4	+3658	+100	152	LOTTE	+2926	+80	+966	+32	
6144809	1342833	35	1.5	-470	-24	4348861	6	+4241	+186	25.5	+3254	+117						1	+5786	+205	196	LOLA	+2893	+102	+877	+32	
5506890	1290741	19	3.6	+609	+21	4978341	2	-8018	-268					11.0	-1942	-55		3	+3429	+71	168	ALICE	+2571	+53	+137	-1	
6442234	1428731	15	1.0	+1030	+29	5823958	1	+1719	+78									1	+4688	+143	214	CANDY	+2344	+71	+785	+25	
6318141	1342833	35	1.5	-428	-21	4797882	6	+1572	+55									1	+4306	+74	212	LEONA2	+2153	+37	+417	+5	
5475967	1334641	45	2.1	+644	+29	4797885	5	-1113	-46	12.0	-464	-14		11.0	+1536	+66		3	+2826	+91	171	PENNY	+2119	+68	+539	+19	
5771061	1332213	24	2.3	+445	+49	4614203	3	-3796	-94	22.5	+96	+8						3	+2669	+118	179	JANINE	+2001	+88	+289	+24	
6144811	1428731	15	1.0	+1094	+27	5771059	2	-760	-70	11.0	-6649	-311						1	+3715	+177	203	DOLL	+1857	+88	+436	+14	
5945577	1342833	35	1.5	-411	-22	5391297	4	+765	+50									1	+3715	+125	197	MARTHA	+1857	+62	+294	+9	
5475969	1218949	484	2.4	-202	-1	4317906	4	+1293	+1	15.0	+2074	-16		21.5	-3327	-159		3	+1950	+47	164	LILA	+1462	+35	+79	-6	
5771062	1332213	24	2.3	+479	+51	4978336	5	+2074	-16	21.5	-447	-41						3	+1848	+63	174	LILL	+1386	+47	+515	+20	
4797882	1295060	9	3.6	+199	-1	4348861	6	+4241	+186	23.0	+5361	+192		11.0	+4306	+74		6	+1570	+55	140	LEONA	+1350	+47	+859	+29	
5235349	1334641	45	2.0	+672	+30	4614203	3	-3796	-94	22.0	+633	+36		11.0	+2502	+100		4	+1594	+62	153	JANIE	+1275	+49	+310	+17	
6229951	1428731	15	1.0	+1175	+32	5235349	4	+1595	+62									1	+2502	+100	205	JOLCE	+1251	+50	+616	+21	
6229949	1342833	35	1.5	-374	-21	4978336	5	+2074	-16	22.5	-735	-50						1	+2423	+82	208	LEILA	+1211	+41	+242	-2	
6273238	1428731	15	1.0	+1240	+34	5475967	3	+2827	+91									1	+1534	+65	199	PRECY	+767	+32	+615	+20	
5391297	1334641	45	2.0	+690	+30	4317898	5	-1033	-38	16.0	-89	-20		11.0	+3717	+125		4	+766	+50	160	MARTY	+612	+40	+343	+16	
6317397	1428731	15	1.0	+1276	+39	5636040	2	-1600	-87									1	+990	-9	204	IDEA	+495	-4	+251	+1	
6229947	1342833	35	1.5	-322	-20	4797887	4	+858	+46									1	+608	-36	201	TERRY	+304	+18	+31	+1	
5338127	1334641	45	2.0	+701	+31	4317899	3	+1210	-34	11.0	-1811	-74		21.0	-2929	-103		4	+288	-9	154	EVELYN	+230	-7	+53	-2	
5771066	1332213	24	2.3	+544	+50	4614207	6	-3089	-99	22.0	-4087	-38						3	+272	+77	176	ANN	+204	+57	-170	+16	
6229948	1342833	35	1.5	-316	-19	5475968	2	-3317	-163	12.0	+237	-36						1	+404	+24	195	LETA	+202	+12	-259	-14	
5945578	1342833	35	1.5	-312	-18	5475968	2	-3317	-163	11.0	+404	+24						2	+234	-36	191	LILA2	+156	-24	-241	-19	
6318142	1342833	35	1.5	-308	-18	4797881	6	-89	-20	21.5	+834	+107						1	+105	-11	207	MARY	+52	-5	-61	-4	
5945580	1342833	35	1.5	-306	-17	5475969	3	+1952	+47	11.0	-6694	-271						2	+41	-46	192	LORI	+27	-30	-49	-12	
5310702	1334641	45	2.0	+709	+31	3966643	5	+2257	+56	13.0	+539	-23		11.0	-1312	-39		4	-67	-2	162	ROBIN	-53	-1	+295	+10	
4797881	1295060	9	3.6	+384	+8	4317898	5	-1033	-38	14.0	+765	+50		31.3	+591	+67		6	-90	-21	108	MARLA	-77	-18	+56	+3	*
5771070	1403136	4	1.5	-2099	-64	4054134	2	-2088	-39	11.0	-1198	-85						2	-276	-3	188	DESIGN	-184	-2	-357	-9	
5823959	1332213	24	2.4	+575	+54	4797885	5	-1113	-46	13.0	+2827	+91		11.0	+2254	+29		2	-467	-14	189	PRINCS	-312	-9	+141	+11	
6383761	1347065	452	1.3	+260	+7	4054134	2	-2088	-39	12.0	-274	-3							-1198	-85	209	ANETTE	-599	-42	-144	-7	
5945583	1198696	234	2.0	-548	+10	5310702	4	-65	-2									1	-1314	-39	200	RUTH	-657	-19	-338	0	*
5310703	1334641	45	2.0	+734	+31	4317897	3	-1659	-11	12.0	+1347	+153						4	-1198	-5	156	LUCIE	-958	-4	-63	+10	
5771069	1332213	24	2.4	+616	+54	4348859	7	-2497	-136	12.0	+2002	+97						2	-1442	-13	183	ORPHA	-966	-8	-182	+4	
6383760	1347066	533	1.3	+50	-14	5506890	3	+3433	+71									1	-1942	-55	213	ALTHA	-971	-27	+194	+3	
4978331	1299673	6	2.7	-204	-47	4638385	4	-1763	-36									6	-1244	-17	136	GRACUS	-1069	-14	-367	-11	
42A0L2866	1342833	35	1.5	-244	-17	5310701	4	-327	-14									1	-2140	-65	198	PATTI	-1070	-32	-303	-12	*
5771060	1334641	45	2.1	+746	+32	4978338	3	-478	-32									2	-1773	-43	182	TRESS	-1187	-28	-41	+2	
5235342	1290741	19	3.6	+882	+27	3219923	4	+123	+36	33.7	-775	-68						4	-1749	-38	165	ADELE	-1399	-30	-112	-2	
4614207	1257122	3	2.0	-955	-31	4134140	6	+338	-35					32.3	-2634	+1		6	-3090	-100	106	ANNIE	-2657	-86	-890	-20	*
6014376	1342833	35	1.5	-179	-13	4755560	3	-1313	-59									2	-4425	-204	193	DUCHES	-2964	-136	-724	-35	*
6383755	1342833	35	1.5	-115	-10	5771059	2	-760	-70	11.0	+3717	+177						1	-6649	-311	210	DORIS	-3324	-155	-661	-34	*
6383757	1342833	35	1.5	-114	-11	5475969	3	+1952	+47	12.0	+41	-46						1	-6694	-271	215	LEATY	-3347	-135	-532	-27	

MEAN	35	14813	546	3–11	1270	395	338	57	+209	+8	
Totals and Averages	Number of Complete Lactations	305 2X M.E. Milk and Fat		Age in Yrs. and Mo.	Body Weight	Calving Interval	Length of Lactation	Dry Period	Sire Average Milk and Fat		
STAT	37	13059	474	4–05	1260	387	323	64	+112	+2	

EPA is the Estimated Producing Ability of the cow using only her own records. EPA is a culling guide.
EATA is the cow's Estimated Average Transmitting Ability using the records of her relatives in addition to her own. EATA is a genetic evaluation.

MEAN	14	+343	+14	+97	+3	* = Left Herd
Information on Selection	% Left Herd	Progress in Selecting for EPA Milk and Fat		Progress in Selecting for EATA Milk and Fat		
STAT	20	+171	+6	+36	+2	

Individual Cow Lactation Summary - DHIA 203

DAIRYMAN, JOHN A

42-77-0074	OFFICIAL DHI	5-72
HERD CODE	TYPE OF TEST	CUT-OFF DATE

	REG. OR EARTAG	BREED
COW	6765101	H
SIRE	1070036	H
DAM	5744711	H

COW INDEX NO. 41

BARN NAME HOLLY

BIRTHDATE 1-08-67

CALVING DATE	AGE	DAYS DRY	DAYS OPEN	NO. SERV'S.	305 DAY ACTUAL MILK	305 DAY ACTUAL FAT	COMPLETE LACTATION DAYS	COMPLETE LACTATION MILK	COMPLETE LACTATION %	COMPLETE LACTATION FAT	CAR	LACT NO.	305 - 2X - ME MILK	305 - 2X - ME FAT	DIFF. FROM H'MATES MILK	DIFF. FROM H'MATES FAT
1-22-69	2-00		70		14220	539	307	14290	3.8	542		1	18490	690	+4865	+173
1-06-70	3-00	42	93		17180	647	311	17410	3.8	657		2	20440	757	+5951	+205
1-13-71	4-00	61	80		17990	677	305	17990	3.8	677		3	19600	731	+4516	+147
1-04-72	5-00	51	62	1	8000	306	93		3.8			4	21210	803	+4579	+149

CALVING EFFICIENCY	MILK PER DAY SINCE 1ST CALF OR 2 YRS. OLD
100	48.6

SEE REVERSE SIDE FOR EXPLANATIONS

TOTALS AND AVERAGES	LIFETIME PRODUCTION DAYS	LIFETIME PRODUCTION MILK	LIFETIME PRODUCTION %	LIFETIME PRODUCTION FAT	NO. LACTS.	305 - 2X - ME MILK	305 - 2X - ME FAT	DIFF. FROM H'MATES MILK	DIFF. FROM H'MATES FAT
	923	49690	3.8	1876	4	19935	745	+4978	+169

PATERNAL SISTERS	DAM	MATERNAL SISTERS	DAUGHTERS
NO. 2006 REC'S 2.9	RECORDS 8	NO. 1 REC'S 1.0	NO. REC'S
+888 MILK	+3219 MILK	+1584 MILK	MILK
+50 FAT	+48 FAT	+47 FAT	FAT

	MILK	FAT
EPA	+3982	+135
EATA	+1311	+47

REPLACEMENT HEIFERS — LISTED 01-23-75 — PAGE 3

HERDCODE	NAME	ASSOC	SUPR
73-60-9019	OKLA STATE UNIV	60	WA

SIRE NO.	SIRE NAME	REPEAT-ABILITY	PREDICTED DIFFERENCES MILK	%	FAT	$$
1416669	SKOKIE FAMOUS GOVERNOR	98%	+232	+.13	+27	+34

HEIFER INDEX	HEIFER NUMBER	BR	HEIFER BIRTHDATE	DAM NUMBER	DAM INDEX	DAM NAME	EATA MILK	EATA FAT	PEDIGREE ESTIMATE OF BREEDING VALUE MILK	PEDIGREE ESTIMATE OF BREEDING VALUE FAT
			9-04-73	7231181	2130		+359	+25	+591	+52
1464838	AMBERLEY BURLEY LAIRD				97%		0	+.06	+8	+6
			9-28-73	7766329	2340		-24	-9	-24	-1
			1-16-74	7273464	2165		+876	+13	+876	+21
			2-04-74	7273463	2164		+925	+25	+925	+33
			2-13-74	7169474	1975		-540	-9	-540	-1
			2-14-74	7169473	1981		+411	+8	+411	+16
			4-08-74	7204258	2140		+380	-3	+380	+5
1483814	LEOHOST COUNT LUCY BURKE				20%		+138	-.01	+4	+11
			9-24-73	7720099	2306		+614	+7	+752	+11
			10-06-73	7550587	2267		+509	+14	+647	+18
1483844	HARBORCREST HAPPY CRUSADER				99%		-19	-.01	-2	-3
			2-15-74	7237644	2073		-247	+5	-266	+3
			3-13-74	7335505	2202		+969	+23	+950	+21
2774	H		11-22-74	7335503	2189		+523	+14	+504	+12
1488907	INDIANHILLS SENATOR FLAME				61%		-105	-.02	-7	-11
2766	H		11-01-74	7204247	2048		+105	+10	0	+3
2777	H		11-24-74	7976815	2405		+1070	+38	+965	+31
2782	H		12-05-74	8060965	2355		+30	+5	-75	-2
1491007	ROUND OAK RAG APPLE ELEVATION				98%		+1185	-.02	+40	+96
			12-30-73	7231770	2019		+515	+3	+1700	+43
			1-01-74	7283474	2175		-200	+1	+985	+41

APPENDIX B

DATA COLLECTING INSTRUMENTS

DAIRYMEN'S DHI RECORDS SURVEY

NAME _____ (May leave blank if desired)

ASSOCIATION _____ Years on DHI Program 2 2-4 4-6 6-8 >8

HERD SIZE <49 50-79 80-109 110-149 >150 Type of Test OS DHI DHIR

Filled out by Herdowner _____, Wife _____, Herdsman _____

Current Production Level - Milk <9000 9-10900 11-12900 13-14900 >15000

Breeding Program Primarily - A I _____, Natural Service _____

Considering the way you manage your dairy herd and the way you use your DHI Records, rate the following compontent parts of the MONTHLY INDIVIDUAL COW REPORT as to having (0) no influence, (1) little influence, (2) some influence, (3) much influence, (4) very much influence, on your making herd management decisions (Circle most appropriate answer).

	AMOUNT OF INFLUENCE				
	None	Little	Some	Much	Very Much
Test Day Milk and Fat	0	1	2	3	4
Test Day Fat Lbs	0	1	2	3	4
Test Day Income Over/Feed Cost	0	1	2	3	4
Action Need	0	1	2	3	4
Concentrates Fed - Indicated	0	1	2	3	4
Days Dry	0	1	2	3	4
Age At Calving	0	1	2	3	4
Body Weight	0	1	2	3	4
Lactation to Date-Days-Milk-Fat	0	1	2	3	4
Lactation to Date Income Over/Feed Cost	0	1	2	3	4
Persistency	0	1	2	3	4
305 2 X ME Milk-Fat	0	1	2	3	4
Difference From Herd Mates Milk-Fat	0	1	2	3	4
Due Date	0	1	2	3	4

Are you buying the management options, Yes____, No____? The Culling Guide, Yes____, No____?
How much influence are these lists or would these lists be in managing your herd?

Cows to Breed	0	1	2	3	4
Cows to Pregnancy Check	0	1	2	3	4
Cows to Lead Feed	0	1	2	3	4
Cows to Dry	0	1	2	3	4
Low Cow List	0	1	2	3	4
Culling Guide	0	1	2	3	4

How much influence does the HERD RANKING AND SUMMARY have in your Culling of Cows?

Estimated Producing Ability	0	1	2	3	4
Estimated Average Transmitting Ability	0	1	2	3	4

How much influence does the HERD RANKING AND SUMMARY have in your selection of replacement heifers?

Estimated Producing Ability	0	1	2	3	4
Estimated Average Transmitting Ability	0	1	2	3	4

How much influence does the GENETIC EVALUATION of the HERD RANKING or DIFFERENCE from HERDMATES have on your selection of bulls? 0 1 2 3 4

Do you feel the present DHI Records are meeting your needs of a production record system for your herd? 0 1 2 3 4

How much confidence do you have in the accuracy of your DHI Records?

Milk and Fat	0	1	2	3	4
Feed	0	1	2	3	4
Genetic	0	1	2	3	4

	AMOUNT OF UNDERSTANDING				
	None	Little	Some	Much	Very Much
Please rank your understanding of the information on the INDIVIDUAL COW SUMMARY	0	1	2	3	4
Please rank your understanding of the information on HERD RANKING AND SUMMARY	0	1	2	3	4

Have you attended a DHI Records Workshop in your county or association in the last three years? Yes____, No____.
Would you attend a Records Workshop scheduled in your county or Association? Yes____, No____

What additional information would you like to see in the DHI RECORDS PROGRAM?
What parts of the DHI RECORDS would you like to see optional or dropped if price changed accordingly?

(You may use the back of this sheet for any additional comments you would like to make)

COOPERATIVE EXTENSION SERVICE

OKLAHOMA STATE UNIVERSITY
EXTENSION PROGRAMS IN AGRICULTURE

UNIVERSITY EXTENSION
STILLWATER 74074

003 Animal Husbandry

To: Selected Oklahoma Dairymen
From: Jack D. Stout, Extension Dairy Specialist
Date: February 6, 1976
Subject: Study on DHI Records Program Participation

You have been selected as a participant in a study on the use of the Dairy Herd Improvement Records Program (DHI). It will take a few minutes of your time; however, the information you furnish will be used to make the DHI Program better fit your needs.

The following survey is in two parts. Please complete the booklet portion plus one of the colored sheets, depending on your present and past participation in the DHI Records Program.

The analysis of this information will be used to determine:

1. Why dairymen use DHI Records and what changes or help these dairymen desire in the program.

2. Why dairymen discontinue DHI testing and what changes need to occur in the DHI Records to get them back on the Program.

3. Why some dairymen have not tried the DHI Records Program and what improvements are needed to get them interested in DHI Records.

Your frank and honest answers are needed, regardless of which category you are in or how you answer the questions. Please use the enclosed envelope to return your completed survey by February 20. No postage is necessary. Please take the time today--an early return will be appreciated.

Thank you for your cooperation on this project.

jds/pc

Enclosures

Thank you
Jack D. Stout

SURVEY OF SELECTED OKLAHOMA DAIRYMEN

COMPUTER LINE NUMBER

WE WOULD LIKE TO KNOW SOMETHING ABOUT YOU AND YOUR DAIRY BUSINESS. PLEASE INDICATE THE ANSWER THAT IS MOST APPROPRIATE TO THE FOLLOWING QUESTIONS.

121 PRESENT HERD SIZE <49 50-79 80-109 110-149 >150

122 ACTUAL COW COUNT _____

123 YOUR AGE GROUP <30 31-40 41-50 51-60 >60

124 ESTIMATED PRODUCTION LEVEL OF HERD, MILK/COW <9000 9-10900 11-12900 13-14900 >15000

125 HOW LONG DO YOU PLAN TO CONTINUE DAIRYING _____YEARS

126 WHAT % OF HERD REPLACEMENTS DO YOU RAISE? <50% 51-60% 61-70% 71-80% >80%

127 WHAT IS YOUR SOURCE OF PURCHASED REPLACEMENTS?

PRIMARILY FROM DHI TESTED HERDS _____ PRIMARILY FROM HERDS NOT HAVING RECORDS _____

PRIMARILY FROM DISPERSAL SALES _____ PRIMARILY FROM ORDER-BUYERS OR DEALERS _____

128 MY BREEDING PROGRAM IS:

ALL NATURAL SERVICE _____ 25% AI, 75% NATURAL _____

50% AI, 50% NATURAL _____ 75% AI, 25% NATURAL _____

ALL AI _____

129 THE DAIRY LABOR ON OUR FARM IS:

ALL BY HERD OWNER _____ MOSTLY HIRED HELP _____

HERD OWNER AND FAMILY _____ ALL HIRED HELP _____

HERD OWNER, FAMILY, & SOME HIRED HELP _____

PLEASE CHECK THE APPROPRIATE BLANK THAT INDICATES YOUR PRESENT OR PAST PARTICIPATION IN THE DHI RECORDS PROGRAM AND COMPLETE THE CORRESPONDING COLOR-CODED SECTION.

131 _____ I AM CURRENTLY A MEMBER OF THE DHI RECORDS PROGRAM. (PLEASE COMPLETE THIS BOOKLET, PLUS THE GREEN SHEET, SECTION 4-A.)

132 _____ I HAVE BEEN ON THE DHI PROGRAM, BUT AM NOT ON AT PRESENT. (PLEASE COMPLETE THIS BOOKLET, PLUS THE YELLOW SHEET, SECTION 4-B.)

133 _____ I HAVE NEVER BEEN ON ANY OF THE DHI RECORDS PROGRAMS. (PLEASE COMPLETE THIS BOOKLET, PLUS THE PINK SHEET, SECTION 4-C.)

COMPUTER LINE NUMBER	PLEASE CIRCLE YOUR LEVEL OF AGREEMENT WITH THE FOLLOWING STATEMENTS.	LEVEL OF AGREEMENT				
		NONE	LITTLE	SOME	MUCH	VERY MUCH
135	THE HIGH COW AND HERD AWARDS PROGRAM SHOULD BE DISCONTINUED	0	1	2	3	4
136	DHI TESTING IS TOO EXPENSIVE FOR THE VALUE RECEIVED . . .	0	1	2	3	4
137	DHI TESTER'S METERS DO NOT ALWAYS WEIGH ACCURATELY	0	1	2	3	4
138	INDIVIDUAL COWS WILL VARY IN BUTTERFAT % FROM DAY TO DAY .	0	1	2	3	4
139	THE TOTAL POUNDS OF MILK/COW HAS MORE EFFECT ON PROFIT THAN BUTTERFAT %	0	1	2	3	4
140	DHI RECORDS ARE A TRUE INDICATION OF PRODUCTION	0	1	2	3	4
141	AWARDS PROGRAMS PUT TOO MUCH EMPHASIS ON TOP COWS AND HERDS INSTEAD OF OVERALL SOUND MANAGEMENT	0	1	2	3	4
142	THE PLANT TEST WILL VARY WITH HAULER SAMPLING ACCURACY . .	0	1	2	3	4
144	I FEEL THE INTEGRITY OF SOME HERD AVERAGES IS QUESTIONABLE	0	1	2	3	4
145	I WOULD LIKE TO SEE THE AWARDS PROGRAM BASED ON % OF BREED AVERAGE MILK	0	1	2	3	4
146	DHI WEIGHING EQUIPMENT SHOULD BE CHECKED MORE OFTEN . . .	0	1	2	3	4
147	BUTTERFAT TEST WOULD BE MORE UNIFORM IF ALL WERE RUN AT THE OKLA. DHIA, INC. LAB WITH AN ELECTRONIC MILKO-TESTER .	0	1	2	3	4
148	THE VARIATION OF BUTTERFAT TEST IS ALWAYS THE TESTER'S FAULT	0	1	2	3	4
149	COWS SHOULD NEVER TEST BELOW 3.0% BUTTERFAT	0	1	2	3	4
150	DHI ASSOCIATION SHOULD COVER SMALLER AREAS TO REDUCE THE TESTER'S MILEAGE AND EXPENSE	0	1	2	3	4
151	DHI TESTERS SHOULD BE PAID BY THE HOUR OF WORK INSTEAD OF BY NUMBER OF COWS TESTED	0	1	2	3	4
153	I WOULD LIKE TO JOIN DHI	0	1	2	3	4
154	I WOULD ATTEND A MEETING TO GET MORE INFORMATION ON DHI .	0	1	2	3	4
155	DHI RECORDS WILL INCREASE THE SALE VALUE OF ANIMALS . . .	0	1	2	3	4
156	DHI RECORDS INCREASE MANAGEMENT EFFICIENCY	0	1	2	3	4
157	I HAVE MORE CONFIDENCE IN COWS PURCHASED FROM DHI HERDS .	0	1	2	3	4
158	THE COW DATA NEEDED FOR DHI RECORDS IS ESSENTIAL TO ANY GOOD DAIRY OPERATION	0	1	2	3	4
159	THE DHI PROGRAM HAS MADE A TREMENDOUS CONTRIBUTION TO THE TOTAL DAIRY INDUSTRY	0	1	2	3	4
160	ALL DAIRYMEN SHOULD HAVE SOME SORT OF PRODUCTION AND BREEDING RECORDS PROGRAM	0	1	2	3	4
161	LENDING AGENTS SHOULD BE MADE MORE AWARE OF THE VALUE OF DHI RECORDS	0	1	2	3	4

THERE ARE SEVEN DHI RECORD PROGRAMS AVAILABLE. PLEASE CIRCLE YOUR DEGREE OF ACCEPTANCE FOR EACH OF THESE PROGRAMS IN YOUR HERD.

COMPUTER LINE NUMBER		DEGREE OF ACCEPTANCE				
		NONE	LITTLE	SOME	MUCH	VERY MUCH
163	STANDARD OFFICIAL DHI - SUPERVISOR WEIGHS, SAMPLES MILK, TESTS FOR B.F.%, RECORDS MANAGEMENT DATA OF BREEDING, CALVING AND DRY DATES, FEED FED AND FEED COST: AND VERIFIES COW IDENTIFICATION	0	1	2	3	4
164	OFFICIAL DHIR - SAME AS STANDARD DHI BUT FOR REGISTERED COWS WITH LACTATION REPORTS GOING TO BREED ASSOCIATIONS, CHECK TEST AND EXTRA CHARGES SET BY BREED ASSOCIATION . .	0	1	2	3	4
165	OWNER-SAMPLER - HERD OWNER COLLECTS ALL MILK WEIGHTS AND SAMPLES AND RECORDS ALL INFORMATION, SUPERVISOR DELIVERS METERS AND TESTS MILK FOR B.F.%	0	1	2	3	4
166	SUPERVISED AM-PM - SUPERVISOR WEIGHS AND SAMPLES MILK FROM ONLY ONE MILKING/MONTH, ALTERNATING AM AND PM; ALL OTHER DATA IS SAME AS STANDARD DHI	0	1	2	3	4
167	SUPERVISED MILK-ONLY - SUPERVISOR WEIGHS MILK, RECORDS ALL FEED AND BREEDING DATA; HERD OWNER'S TANK TEST IS USED IN PLACE OF INDIVIDUAL COWS' B.F. TEST	0	1	2	3	4
168	OWNER-SAMPLER AM-PM - HERD OWNER WEIGHS AND SAMPLES MILK FOR ONLY ONE MILKING/MONTH, ALTERNATING AM AND PM AND RECORDS THE OTHER MANAGEMENT DATA	0	1	2	3	4
169	OWNER-SAMPLER MILK-ONLY - HERD OWNER WEIGHS MILK, RECORDS FEED FED AND BREEDING DATES, TANK TEST OR BREED AVERAGE REPLACES INDIVIDUAL COWS' B.F. SAMPLES	0	1	2	3	4

PLEASE CIRCLE YOUR LEVEL OF AGREEMENT WITH THE FOLLOWING STATEMENTS.

		LEVEL OF AGREEMENT				
		NONE	LITTLE	SOME	MUCH	VERY MUCH
171	THE DHI PROGRAM SHOULD HAVE A VERY BASIC PLAN WITH A WIDE SELECTION OF OPTIONS SO DAIRYMEN COULD PICK WHAT THEY WANT	0	1	2	3	4
172	THE FEEDING DATA SHOULD BE OPTIONAL	0	1	2	3	4
173	BREEDING RECORDS SHOULD BE OPTIONAL	0	1	2	3	4
174	THE DIFFERENCE FROM HERD MATES SHOULD BE OPTIONAL	0	1	2	3	4
175	THE 305-ME PROJECTED RECORDS SHOULD BE OPTIONAL	0	1	2	3	4
176	THE RANKING OF COWS ACCORDING TO PRODUCING ABILITY SHOULD BE OPTIONAL	0	1	2	3	4
177	COLLECTION AND CALCULATION OF ALL INDIVIDUAL COW B.F.% SHOULD BE OPTIONAL	0	1	2	3	4
178	THE FEED COST AND INCOME OVER FEED COST SHOULD BE OPTIONAL	0	1	2	3	4
179	A MAIL-IN OWNER-SAMPLER PROGRAM WHERE THE TESTER DID NOT COME TO MY FARM WOULD MOST SUIT MY NEEDS	0	1	2	3	4
180	I WOULD LIKE A PROGRAM THAT ONLY REQUIRED WEIGHING AND RECORDING ONE MILKING PER MONTH	0	1	2	3	4

SECTION 4-A.

TO BE COMPLETED BY THOSE DAIRYMEN THAT ARE NOW ON THE DHI RECORDS PROGRAM.

COMPUTER LINE NUMBER	AT THE TIME YOU JOINED DHIA, HOW MUCH INFLUENCE DID THE FOLLOWING FACTORS HAVE ON YOUR DECISION TO START ON THE DHI RECORDS PROGRAM?	LEVEL OF INFLUENCE				
		NONE	LITTLE	SOME	MUCH	VERY MUCH
221	DESIRE TO IMPROVE PRODUCTION LEVEL OF HERD	0	1	2	3	4
222	FIGURED ALL INFORMATION WOULD HELP IN MANAGEMENT	0	1	2	3	4
223	LOAN AGENT REQUESTED DHI RECORDS	0	1	2	3	4
224	FELT MY COWS WERE AS GOOD AS THOSE WINNING AWARDS	0	1	2	3	4
226	DHI TESTER WAS A FRIEND	0	1	2	3	4
227	DHI ASSOCIATION NEEDED THE HELP OF MY HERD	0	1	2	3	4
228	DESIRE TO CHECK ON PLANT BUTTERFAT TEST	0	1	2	3	4
229	DESIRE TO KNOW WHICH HEIFERS TO SAVE	0	1	2	3	4
231	SON OR DAUGHTER WANTED RECORDS FOR FFA OR 4-H	0	1	2	3	4
232	DESIRE TO CULL LOW-PRODUCING COWS	0	1	2	3	4
233	HOPED TO RAISE BUTTERFAT CONTENT OF MILK	0	1	2	3	4
234	WAS PLANNING TO DISPERSE HERD IN A FEW YEARS	0	1	2	3	4
236	DESIRE TO GET ON THE 500 POUND FAT LIST	0	1	2	3	4
237	HOPED TO SELL HIGH-PRICED BREEDING STOCK	0	1	2	3	4
238	DHI RECORDS SEEMED TO HELP MY NEIGHBOR	0	1	2	3	4
239	COUNTY EXTENSION PROGRAMS STRESSED DHI RECORDS	0	1	2	3	4
240	DESIRED THE FEED COST AND INCOME/FEED COST	0	1	2	3	4

PLEASE ADD ANY ADDITIONAL FACTORS OR COMMENTS:

SECTION 4-B

TO BE COMPLETED BY THOSE DAIRYMEN THAT HAVE BEEN ON THE DHI RECORDS PROGRAM, BUT ARE NOT CURRENTLY ENROLLED ON DHI.

COMPUTER LINE NUMBER	PLEASE INDICATE THE AMOUNT OF INFLUENCE EACH OF THE FOLLOWING ITEMS HAD IN YOUR DECISION TO DISCONTINUE THE USE OF DHI RECORDS PROGRAM.	AMOUNT OF INFLUENCE NONE	LITTLE	SOME	MUCH	VERY MUCH
242	TOO EXPENSIVE FOR VALUE RECEIVED	0	1	2	3	4
243	DID NOT LIKE OR HAVE FAITH IN THE TESTER	0	1	2	3	4
244	THE DHI RULES WERE TOO RIGID, DID NOT FIT ME	0	1	2	3	4
245	MILK PRODUCTION DID NOT IMPROVE WHILE ON TEST	0	1	2	3	4
246	BUTTERFAT % WAS LOWER THAN PLANT TEST	0	1	2	3	4
248	TESTER'S EQUIPMENT CAUSED HIGH BACTERIA COUNT	0	1	2	3	4
249	TESTER AND METERS MADE COWS NERVOUS	0	1	2	3	4
250	HIRED HELP DID NOT WANT TO TAKE THE TIME AND EFFORT	0	1	2	3	4
251	REQUIRED TOO MUCH OF MY TIME	0	1	2	3	4
252	DID NOT UNDERSTAND AND USE INFORMATION RECEIVED	0	1	2	3	4
254	TESTER WAS TOO DEMANDING OR IRRITATING	0	1	2	3	4
255	PROGRAM WAS OPERATED FOR BENEFIT OF DHI ASSOC. BOARD . . .	0	1	2	3	4
256	DHI ASSOCIATION CHANGED TESTERS TOO OFTEN	0	1	2	3	4
257	THE SERVICE WAS IRREGULAR	0	1	2	3	4
258	NO HELP WAS GIVEN ON USE OF RECORDS	0	1	2	3	4

PLEASE ADD ANY ADDITIONAL ITEMS OR COMMENTS:

SECTION 4-C

TO BE COMPLETED BY THOSE DAIRYMEN WHO HAVE NEVER BEEN ON THE DHI RECORDS PROGRAM.

COMPUTER LINE NUMBER	PLEASE INDICATE THE AMOUNT OF INFLUENCE THE FOLLOWING FACTORS HAVE HAD ON YOUR NOT JOINING OR USING THE DHI RECORDS PROGRAM	AMOUNT OF INFLUENCE				
		NONE	LITTLE	SOME	MUCH	VERY MUCH
260	TOO EXPENSIVE	0	1	2	3	4
261	HAVE NOT BEEN INFORMED OF THE PROGRAM OR ITS BENEFITS . .	0	1	2	3	4
262	DO NOT UNDERSTAND HOW TO USE THE DHI RECORDS	0	1	2	3	4
263	THERE IS NO DHI TESTER IN MY AREA	0	1	2	3	4
4	I DO NOT HAVE FAITH IN THE DHI TESTERS	0	1	2	3	4
266	THE DHI RULES ARE TOO RIGID, DO NOT FIT ME	0	1	2	3	4
267	HIRED HELP DOES NOT WANT THE EXTRA WORK OR BOTHER	0	1	2	3	4
268	REQUIRES TOO MUCH TIME TO IDENTIFY COWS	0	1	2	3	4
269	DHI RECORDS DO NOT SEEM TO HELP MY NEIGHBOR	0	1	2	3	4
270	DAIRYMEN USING DHI ARE ALWAYS COMPLAINING ABOUT SERVICE .	0	1	2	3	4
272	MY COUNTY AGENT DOES NOT RECOMMEND DHI RECORDS	0	1	2	3	4
273	DHI RECORDS ARE ONLY FOR REGISTERED COWS	0	1	2	3	4
274	THE DHI ASSOC. IS FULL, CANNOT GET ON TESTERS SCHEDULE . .	0	1	2	3	4
275	WE MAINTAIN OUR OWN PRODUCTION RECORDS	0	1	2	3	4
276	NEIGHBORS DHI TEST IS ALWAYS LOWER THAN THE PLANT TEST . .	0	1	2	3	4
277	I AM WAITING UNTIL MY HERD IMPROVES	0	1	2	3	4

PLEASE ADD ANY ADDITIONAL FACTORS OR COMMENTS:

APPENDIX C

SELECTED COMMENTS FROM SURVEYS BY DAIRYMEN ON DHI, DISCONTINUED DHI OR HAVE NEVER PARTICIPATED IN THE DHI RECORDS PROGRAM

SELECTED COMMENTS FROM GROUP I, DAIRYMEN
WHO ARE ON THE DHI PROGRAM

"I have been on DHIA ever since it has been organized. I think it is a very good tool for the dairymen."

"Keep up the good work! Our DHIA records are our most valuable tool. Our whole dairy operation revolves around these records. Using them has helped us remain in business during bad times."

"The testing program has been more help in finding low producing cows and has helped me more toward improving my herd than anything, it just takes longer to replace the nonprofit ones when the lending agency can't understand why the DHI cows cost more."

"I would hate to milk cows without DHIA Records."

"In the registered business, DHIR & DHIA is the only way to do it!"

"Testing fee is too high."

"Some form of individual cow records whether DHI or farmer owned is essential to successful operation and should influence dispersals. Am completely satisfied with the program."

"Started in registered Holstein business and figured the records would help."

"We enjoy being on the 500 pound fat list."

"The tester should be cautioned to be careful about loud talking during the milking process, also not to smoke at a non-smoker's dairy during the milking process. I would not be interested in testing if the milk sample would have to be sent to a central lab. I feel the sample should be tested right at the dairy."

"I think the program goes into too much detail and fine points for farmers; such as, individual cow lactation record and summary. In other words, I want to know (1) how the cows are doing, (2) their potential, (3) assess my management, and (4) how much the cows are making."

"I don't think I could do a decent job of dairying without records, with costs and returns as they are now."

"I would also like to see an additional column for identification of bull used for each cow next to the due date."

"I feel that DHI will help any dairy. But would like to see something done that would erase doubt about the accuracy of DHI records in so many people's minds."

"Should pay enough to keep a good tester."

"I think that any dairyman not on test is not utilizing the potential production ability of his herd of the profit level that could be attained by culling low producing cows."

"I would like to see more accuracy in the feeding information and would rather have a full time tester who would get the test returns faster than the students."

"'Tester and meters made cows nervous' presently an influencing factor, but do not have the solution."

"DHIA is only as good as the dairyman that is using it wants it to be."

"I feel that having a good dependable tester is one of the key factors in having a larger percentage of herds on test in a given area."

"I like it like it is."

"After purchasing pipeline milker, it was almost impossible to know what individual cows were producing. I also liked and felt a necessity of a system that disciplined one to keep records."

"I feel that for top management efficiency DHI should continue an AM/PM test with individual cow b.f. sampling, listing low cows over herdmates on a M.E. basis. Also breeding dates and calving dates should be recorded with due dates appearing on the printout sheets. DHI is certainly one of the best management tools available to dairymen."

"The reasons for quitting were records were incorrect, testers were incapable of doing the job. Supervisor was temperamental this was when it started. I had tested all my life in dairy business until then. I just started back and the first crack out of the box--messed up. I carefully had all breeding dates, sire no. estimated. After waiting 21 days I received my records today and another thing that is also the main reason why I quit, I would receive my records about 5-7 days before test time; therefore, I felt like my money was wasted or I couldn't use my records as I should. Now I believe that DHI is the greatest tool we have and I plan to use it to the greatest advantage and I intend to be heard. I have always heard that the squeaky wheels is the one that gets the grease. All I ask for is get what I pay for."

SELECTED COMMENTS FROM GROUP II,
DAIRYMEN WHO HAVE DISCONTINUED
THE DHI PROGRAM

"I think the program is fine. I do not feel I was utilizing it properly in my own management program, which was entirely my fault."

"Cows were nervous and did not settle down for several days after tester left; most records are misleading."

"We feel that some of these high-testing herds that never vary should be checked by state testers without warning. No director should be allowed to serve more than one term until every DHIA participant has served if he so desires; we have purchased cows from DHIA and never got the production claimed, and we carry on a good feeding program. It makes the DHI records questionable; we had some high-producing cows and the tester said they couldn't produce that much and must be something wrong with the scales and would just mark them down from 10 to 15 pounds per day; would like to see the awards discontinued."

"Top complaint was DHI Association changed testers too often."

"Upon completion of my new Double 6 installed Zero Milkers with Double Vacuum lines--hence tester's readings were only a guess, so I did not continue on DHIA as I felt the information was already based on not very accurate information and not worth the high cost. DHIA conception is great! Actual value very small."

"The milk projections were useless, as was the irregular test dates. We were DHIR, and used for fill in dates."

"We felt this was too expensive, and we do know DHI was and is being used--not for the cow and herd but "personal politics." So we're not in favor of these things cause it is weakening the purpose of DHI and some of the most popular herds are actually hurting DHI because of their personal pride. It's good to have pride but there should be a limit."

"I wasn't using the information so discontinued because consequently this made the cost too much."

"Tester was too irritating."

"Have tried within last six months to get neighbor's herd tester to come see me but guess he was too busy. $ for feed per $ for milk comparison NET TOTAL always taken on high-priced feed to pay for DHI."

"My reason for quitting was our herd b.f. test was .5% below plant test for five of six months in a row; therefore, I felt records were not accurate enough to be of value. I had been on test for eight to ten years."

"Tester came on holidays because we were near his home."

"Our tester was running a way under the plant test. The last time the tester was here, he gave us a 2.7 test and the plant test was 3.4. We told the tester we expected a more accurate test and he said he didn't want to feel like he was on the stand right then."

"The main reason I stopped was the equipment used. When it was brought they put it on floor of barn--most of time they smelled like sour milk--always one or two didn't work properly. The meters were almost always so dirty we washed them ourselves before using. I was on owner-sampler but would like to get on official now. I talked to a person that was testing a herd about 2 1/2 miles from our place, and she said when she started her January run she would call, but never heard from her. I think it very much helps in finding out what cows are making you money and which ones ain't. We are milking a total of 57 now and have almost a 46 1/2 pound average and we are milking 23 first-calf heifers that freshened in August and September."

"Sometimes computer was programmed wrong causing information to be way out of line on feed requirements and other areas."

"I quit the program because of tester and the board failed to recognize member's wishes."

"It was not worth the time, expense and inconvenience to me. I can sell a good heifer just as fast without records. My butterfat average from tester was higher than plant, but they didn't agree, but was always short on milk weight."

"Tester didn't seem to have enough interest in maintaining accuracy of test. I feel that DHI should be used to improve the dairy herd and accuracy is important, and the tester and owner should demand accuracy. I quit DHIA because of inaccuracy but have bought five official DHIA MilkoMeters to continue to test only on a twice monthly basis."

"There should be different programs for different herd managers--registered vs. grade, etc. Somehow more use could be made if other management factors could be utilized health factor (mastitis) and feed analysis."

"We would like some information on the cost and correct use of DHI; would like to join."

"I was on owner-sampler type program. I wasn't on test long enough to benefit from it. True, I didn't know how to use them (the records). I plan to go back on regular DHIA. The owner-sampler took more time & we were pressed hard for time then anyway."

"Reports by Iowa Computer are and were demonstratably erroneous a large enough percent of time that my confidence in them is very little. More time should be given to improve sampling and care of samples."

"Tester should call around noon to set up the time for milking. Having them just drop in when you are in a bind doesn't help anyone. Or to call late enough that they can't go to another herd that night if you can't test. Dairymen all have a loaded schedule anyway and should have a little cooperation from the tester."

SELECTED COMMENTS FROM GROUP III, DAIRYMEN
WHO HAVE NEVER BEEN ON THE DHI PROGRAM

"I have never had DHIA fully explained to me. I'm interested in DHIA's program."

"I am not interested in DHI."

"I do not know a thing about DHIA. If I am not capable of doing my own management and can't tell a cow that produces, I don't need to be a dairyman. I am talking about my own herd. I think management is up to each dairy owner; some do, some don't need. The class of a cow is the main point with me and still you do not know."

"I am just not interested. We have too many organizations, associations, rules and regulations. Someday we won't have farmers, we'll just have watchdogs and overseers."

"We have our own milk & butterfat tester enabling us to test at any time or consecutive times. Since we do not intend to sell and use this information to improve our own herd. There is no confusion at testing time as it is just routine. We feel we get a more accurate test. Would attend a meeting for more information."

"We keep our own records."

"I would like to get on the DHI Program."

"I would like very much to know more about the DHI Program."

"Don't care for the program. I am sixty-nine years old. A dairyman can't make it when he can't get very much out of his milk to the cost of feed and all other expenses he has and cows so cheap when you sell one and Mr. Butts don't help a bit; men like that should have to do some of this kind of work for awhile."

"Would like to join and would attend a meeting for more information."

"There seems to be some cheating in various herds so that the owners can win awards or say his cows are better than someone else's. I place very little faith in DHIA Records."

"Strangers upset my cows, and I don't want them around."

"I am just not interested in this program."

"I am involved with too many other farm enterprises to bother with more programs. DHI is a good program."

"We have only been in the dairy business a short time. We know nothing about DHI."

"We keep our own records. I have heard that the DHI Program is good, but because of the extra work and other factors we haven't tried it."

"I have bought cows out of DHI herds and put them in my barn on daily weight, and I think the estimated production of these cows is a fake. You cannot check cows once a month and get a good record. I have no faith in estimated production. I hold a 43-50 tank average and the DHI cows I bought most have been culled due to low production."

"I own my own meters and put the money at it cost me to DHI in and feed extra it pay me more."

"We do not have a DHI tester that I know of."

"Have been unaware of the seven different programs. I had only been informed of the Standard Official DHI and thought it was too expensive."

VITA

Jack Dean Stout

Candidate for the Degree of

Doctor of Education

Theses: DAIRYMEN'S OPINIONS THAT INFLUENCE THEIR ACCEPTANCE AND USE OF INFORMATION IN THE DHI RECORDS PROGRAM

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Biographical:

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