COMPETENCIES AND PRE-SERVICE TRAINING IN LIGHT HORSE SUBJECT MATTER RECEIVED BY OKLAHOMA COOPERATIVE EXTENSION SERVICE 4-H AGENTS AND THEIR RELATIONSHIP TO EDUCATIONAL PROGRAMS

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CHAPTER I

INTRODUCTION

Because of Oklahoma's central location and the lack of extreme environmental conditions, the economic importance of the horse industry to the state's economy is evidenced by the presence of large breeding farms and national horse shows. In more recent years, the establishment of pari-mutual horse racing and the growth of horse racing as a spectator sport continues to make the horse industry a multi-million-dollar business. As the need increases for individuals to work in the growing Oklahoma horse industry, the need for an expanded educational program in the horse science area exists. For the expansion to occur, the individuals responsible for conducting these programs must be competent in the area of light horse related subject matter.

Many colleges and universities are realizing the need for horse management courses in addition to providing for "hands-on" experience for students interested in the horse industry. The demand for individuals trained in the horse industry will continue to increase as the industry expands.

In a study completed by Parli (1984) entitled, "Competency Levels of and Pre-Service Training Received by Vocational Agriculture Teachers in the Central District of Oklahoma Relative to Light Horses" and a similar study by Cooper (1987) entitled, "Competency Levels of and

Pre-Service Training Received by County Cooperative Extension Service Agriculture Agents in Oklahoma Relative to Light Horses" recommendations were made that further research be conducted, especially among Cooperative Extension Service (C.E.S.) 4-H Agents, to determine their competencies relative to light horses. Therefore, the focus of this research dealt with determining the C.E.S. 4-H Agents' competency levels and degree of pre-service training relating to light horses and the relationship of these to educational programs.

Statement of the Problem

The previous studies by Parli (1984) and by Cooper (1987) provided insight into the competence and pre-service training of one group of Oklahoma Extension workers, but there is little information available regarding the status of 4-H Agents--the ones most likely to be leading such programs. Although county C.E.S. 4-H Agents may be conducting programs on light horse related subject matter, the degree of competency possessed by those county C.E.S. 4-H Agents is unknown to the University Animal Science and Agricultural Education Departments. Additionally, the nature of pre-service training received and the effects the training has on programs are unknown.

Purpose of the Study

The purpose of this study was to determine the degree of competency and pre-service training relative to light horse related subject matter possessed by county C.E.S. 4-H Agents in Oklahoma and to determine the effects of this pre-service training on light horse programs in 4-H.

Objectives of the Study

To meet the purpose of this study, the following objectives were established:

1. To acquire sufficient demographic data in order to characterize the county Cooperative Extension Service 4-H Agents in Oklahoma.

2. To determine the perceived degree of competence possessed by the county Cooperative Extension Service 4-H Agents in Oklahoma relative to light horse subject matter.

3. To determine the nature and extent of pre-service training received by county Cooperative Extension Service 4-H Agents in Oklahoma relative to light horses.

4. To determine the nature and extent of current programs in Oklahoma 4-H relative to light horses.

5. To compare perceived competence and pre-service training received by 4-H Agents to the current light horse programs being offered to determine if relationships exist.

6. To acquire sufficient data in order to make recommendations to the Oklahoma Cooperative Extension Service regarding the status of current light horse programs in Oklahoma 4-H.

Scope of the Study

This study included all 81 of the county Cooperative Extension Service employees in Oklahoma who had 4-H responsibilities. Forty-four Agents were full-time 4-H Agents with five of them serving two counties. Thirty-seven were part-time 4-H Agents with a full-time appointment as county C.E.S. Director.

Assumptions of the Study

In the conduct of this study, the following basic assumption was accepted:

1. Cooperative Extension Service 4-H Agents are the group of extension personnel most likely to be involved with horse related subject matter. Therefore, an assessment of their situation should provide information useful for conducting light horse educational programs.

Definition of Terms

The following are terms defined as used in this study.

Competency: Includes the personal abilities and skills needed to complete a task (The World Book Dictionary, 1981).

County Cooperative Extension Service 4-H Agent: Usually refers to an individual employed by the Oklahoma Cooperative Extension Service to conduct programs for youth ages nine to 19 in the areas of agriculture, home economics, and leadership. In this study the terms "4-H Agents," "C.E.S. 4-H Agents," and "Agents" are also used to refer to these individuals.

Equine: Pertaining to the horse (Summerhays, 1970).

Equitation: The art of riding (Harper, 1973).

Light Horse: Equine measuring 14.2 hands or more at the withers, weighing 900 to 1,400 pounds, used for riding, driving, racing, or general utility purposes (Blakely, 1981).

Pre-service Training: Training or education received by individuals prior to becoming employed as a county C.E.S. 4-H Agent

(Cooper, 1987).

Post-Secondary: Educational institutions beyond the high school level. Usually referred to as two or four year programs at junior colleges, community colleges, state colleges, and universities (Parli, 1987).

Respondents: County C.E.S. 4-H Agents that completed and returned the questionnaire.

CHAPTER II

REVIEW OF LITERATURE

Introduction

In the past several years, horses have experienced a rise in popularity due to the increase in the number of new horse owners and added interest in horse activities. This occurrence has led to an increasing demand for equine education programs. As a result of this demand, competent individuals are needed to instruct others in light horse related subject matter.

Colleges and universities across the country are recognizing this demand and are attempting to offer educational studies in equine technology and management. By offering more educational programs, the institutions are expanding their programs and equine facilities.

More horse enthusiasts need to receive both the technical and practical experience in the area of equine science for the current trend in horse popularity to continue.

The Horse in Sport

Horses are classified into three groups: light horses, draft horses, and ponies. Light horses are most often used for riding, driving, racing, or general recreation and are described as being small boned animals generally measuring 14.2 hands or more at the withers and weighing 900 to 1,400 pounds. Draft horses are primarily

used for pulling heavy loads, measure from 14.2 to 17.2 hands and weigh 1,400 pounds or more. Finally, ponies, which weigh between 500 and 900 pounds, are under 14.2 hands and are used for recreation and showing purposes (Blakely, 1971). Each of these types may include several breeds, and the same breed may include more than one type.

The horse has been an integral part of the life of the human race and has continued to increase in importance as the relationship with man has continued to grow. This was evidenced by Denhardt (1947) who further stated:

> Throughout the ages the horse has probably had more influence on man's destiny than any other animal. He has served as a means of transportation, a fellow soldier in battle, a most important piece of farm equipment, a symbol of power and wealth, a tax deduction, and inspiration to the artist, a trade item, a means of recreation, and an ever faithful friend (p. 69).

Horses have been a major influence on the development of the United States from the discovery of the American continent by Columbus, use by the Native Americans, and later by the cowboys to work cattle on American ranches. This was further expressed by Oklahoma Agriculture 2000 (1982, p. 7) which stated: "Horses have been important throughout the development of Oklahoma and the Southwest, first for work and transportation, and more recently as pleasure and companion animals."

Even though the horse is a popular companion animal today, the horse numbers decreased during the mechanization age. The numbers of horses continued to diminish until the recent growth in popularity. This was summed up by Campbell and Lasley (1975) who stated:

> Later horses were replaced by tractors. Horses of all kinds gradually decreased in numbers during the next few years. Recently, however, horse numbers have been increasing because of the popularity of

> light horses for shows, sports, racing, and pleasure riding. Horses are also used to advantage for working cattle on the range and farm and in feedlots (p. 574).

The increased popularity of the horse for recreational purposes is evident when noting the numbers of horses used for showing and pleasure riding. There are a number of shows held across the nation throughout the calendar year with an increase in the frequency of shows during the summer months. Trail riding and other family activities that include the horse as a major focus are increasing in number as the modern day family tries to relax from a hectic work atmosphere. Sporting activities involving horses such as rodeos, polo, and other competitive events are popular and if current trends are a predicting factor, will continue in the future. Furthermore, the extremely popular spectator sport of racing is as popular as ever with the increasing number of pari-mutual tracks across the country. This is further reported in the American Horse Council report of 1987 which documented the popularity of horses in the United States and the economic impact of horses on the United States economy. This report indicated that horse shows in the State of Oklahoma were 2.59 percent of the total with total revenues for all horse spectator sports netting $9.79 million for the Oklahoma economy.

Not only is the horse a popular means for recreation, but also a source of income for many people who enjoy working with animals and the excitement of competition.

The Horse Industry in Oklahoma

Evans (1977) stated:

> The early 1960's marked the beginning of a dramatic increase in the horse population. Americans were seeking relaxation from the pressures of their occupations. The horse, and animals that are able to give and receive affection, offered an emotional outlet for many. Approximately 75 percent of the horses in the United States are used primarily for pleasure. More than one-half of all horse owners live in rural areas or cities with populations of less than 50,000. Contrary to popular opinion, approximately 60 percent of all horse owners earn or belong to families that earn, a less-than-average income (p. 144).

With an emphasis on the health of the American society and a trend for physical fitness, the horse industry is in a position to provide a means for the recreational activities of the population. With this in mind, Oklahoma is a leader in the horse industry with several of the top performance horses and broodmare bands in the country being located in the state. Even though several breeds of horses are well represented, the American Quarter horse is the predominant breed in Oklahoma with several prominent breeding facilities and professional trainers located in the state. Oklahoma's role and importance in the history of the horse are evidenced by a statement in Oklahoma Agriculture 2000 (1982):

> Oklahoma has played an important role in the history and development of what is known as the "modern stock horse." During the settlement of the Southwest Oklahoma residents used the horse for three basic reasons: work, transportation, and recreation. However, most of the recreation was limited to Sunday afternoon match races. Today the horse is no longer used for transportation and less than 2 percent of all horses are used as work animals. The 1982 model horse is a leisure animal used in a recreational program or as a companion animal (p. 120).

Cooper (1987) reported that Oklahoma ranks first in the number of horses per square mile while ranking third behind Texas and California in the total number of horses. Topliff (1989) Assistant Professor of

Animal Science at Oklahoma State University, reported that the number of horses in the State of Oklahoma is reported to be 452,000 with no detectable increase.

The growth of the horse industry in Oklahoma is evidenced in the Oklahoma Equine Agriculture Symposium Proceedings (1984) which stated:

> The horse industry in Oklahoma has been described as a multi-billion dollar industry. It provides jobs and income to many state residents. Aside from the direct expenditures for feed, tack, shelter, land, etc., and the animals themselves, horse events have a great impact upon hotels, restaurants, and other tourist service industries (p. 1).

Oklahoma has been the host for many prestigious horse related activities in the past and for the activities to continue to be held in the state, the support of the horse enthusiasts is essential. k The image of the horse industry in the State of Oklahoma is upheld by the fact that the quality of horses in Oklahoma is unexcelled.

A Need for Horse Related Educational Programs

The increase in interest in the light horse among the American society has brought about an upswing of attention from the business world including both commercial and industrial sectors. The horse industry of the 1980's is big business as sales of feed, tack, and horse health products are on the rise. This increase in interest is evidenced in Oklahoma Agriculture 2000 (1982) with the statement:

> The need for extension educational programs and assistance expands with the Oklahoma horse industry. The number of requests for educational programs continues to increase. Horse owners are hungry for factual information on how to select, feed, manage, train, and ride horses. They want to know what constitutes a healthy horse and how to keep him healthy. Horse breeders want information on balanced

> rations, herd health programs, and how to improve conception rates in mares, and new techniques and developments in artificial insemination (p. 121).

With the need for the expansion of educational programs in the equine science area, there has been a response from the educational community to expand their animal science departments to include more instruction in light horse subject matter. The post-secondary institutions are not the only educators to look toward the future of the horse industry, but the Cooperative Extension Service is also feeling the need to teach light horse subject matter to both adults and young people. Ensminger (1977) further pointed out the need for educational programs by noting that as early as 1966 the 4-H club horse projects had exceeded beef cattle projects for the first time and have continued the trend in recent years. The Cooperative Extension Service is recognized for teaching by utilizing practical "hands on" experience which is a very important part of training for the horse industry. Ensminger (1977, p. 456) supports this by stating: "Next to having a great love for horses, to be successful in the equine field it is important that the person have adequate knowledge, both scientific and practical." This attitude is also expressed by many in the horse industry. Rogers (1976) sees experience as a prerequisite for success and believes that as the horse industry expands and the horse is recognized as a recreational product, there will be many more career opportunities for young people who want to work with horses.

This opinion is shared by many who feel that the educational institutions do not provide the practical experience needed by those seeking a career in the horse industry. Lillibridge (1976) points out that structured riding schools have a place in the education system

because the schools do teach courses in light horse management while teaching the students different techniques and providing them with information relating to horse care and equitation. However, many times the schools do not satisfy the requirements for extensive first hand experience.

Potter (1976) believed the theory that practical experience alone is not enough. The students who inspire to go into upper level management, whether it be for a breeding farm, equestrian center or training stable, need to have two types of educational backgrounds. The first step is to receive the technical training in the animal sciences from a college or university. The students need education in the principles of horse behavior, nutrition, feeding, genetics, physiology or reproduction, and disease control. In addition to the technical training, the student must also have some horsemanship ability or in other words, they must also receive some practical experience.

Borton (1971) also believed that practical experience is an important part of the educational process. He would like to see cooperation between the horse breeders and the educational community to provide internships or apprenticeship programs where the students can gain practical experience in the industry backed up with the technical knowledge gained in college. He also feels that there will be a trend among colleges and universities to develop curriculums for degrees in the horse science or horse management option in the near future.

A study by the Kentucky Department of Economic Security led to the development of the Kentucky Equine Education program as a result of a need for trained individuals to work with the horse industry. McElroy

(1975) further supported this program by reporting that the American Horse Council estimated that nationally there are 200,000 full-time employees working in the horse industry. He also stated that "employers have a real need for individuals with knowledge of the different breeds of horses, of feeding, grooming, and exercising, and of the care of broodmares, stallions, and yearlings" (p. 112).

The Current 4-H Horse Programs in Oklahoma

Oklahoma Agriculture 2000 (1982) stated:

> Young people want to know how to judge horses, how to select tack, and how to properly ride and exhibit horses. Horse breed associations ask for advice as they plan new programs and as they expand and improve existing programs (p. 121).

The importance of the horse industry to Oklahoma is evidenced by the many youth programs in the state that are devoted to horses. Many breed associations such as the American Quarter Horse Association (AQHA) are sponsors to a similar youth organization such as the American Junior Quarter Horse Association (AJQHA), that is directed by and composed of youth members. These youth associations give young people a chance to become an active part of the horse industry.

The F.F.A. also offers members a chance to become involved in the horse industry by using horses as a Supervised Agricultural Experience (SAE) program.

The 4-H program of the Cooperative Extension Service is also involved in the education of youth interested in the horse industry. Interested young people ages nine to 19 may enroll in 4-H Horse Projects through either a regular 4-H club or special project club

devoted entirely to those members interested in horses.

As 4-H members, the young people are instructed in basic horsemanship skills, nutrition, horse care, health problems, and selection of horses and tack. Members can become involved in various horse related activities such as demonstrations, public speaking, showing, and judging. In addition to the technical subject matter instruction, each member receives practical experience while working with horses. The members also develop self-confidence while being involved in competition.

According to Topliff (1989), there are 10,000 Oklahoma 4-H members currently enrolled in horse projects. Because of the significant number of horse projects in the state, county C.E.S. 4-H Agents need to be competent in light horse related subject matter. This idea is also supported by Oklahoma Agriculture 2000 (1982, p. 191) that stated: "The youth horse program is also growing rapidly, and many of the new horse owners, riders and exhibitors are 4-H and Future Farmers of America (FFA) members."

Related Studies

The following review of literature includes selected references which address light horse educational programs in institutions of learning. After a search was completed, it was discovered that there were four related studies dealing with light horse education at the post-secondary level and one study that dealt with the competency levels of and pre-service training received by vocational agriculture teachers in relation to light horses.

Parameter (1978) at the University of California at Northridge studied by questionnaire 86 colleges and universities throughout the United States. The purpose of the study was to determine the nature and scope of equine education programs offered in colleges and universities and the attitudes of specialists toward these programs.

One of the major conclusions of the study was that animal science departments were responsible for the largest percentage of equine education programs. The programs were offered due to interest from members of the community, staff, and student body. Most students received one to two hours per week of horse related activity courses and could select from the different riding styles of balanced, hunt, and stock seat. Other courses taught included farm management, nutrition, and judging in addition to new and innovative courses dealing with equine science.

Most of the programs in the survey were relatively new having been in operation for less than five years. From the findings of the study, it was also concluded that most colleges and universities are developing new programs in order to keep up with the expanding horse industry.

The major problems encountered by the equine education programs were due to insufficient funds and difficulty in obtaining suitable horses and facilities.

The respondents for the study came from two categories, state colleges and universities, and private colleges with the major findings of the study concluding that all of the private colleges offered riding programs compared to one-half of the state institutions. Breeding programs or research programs were located at three-fourths of the

state institutions while only nine of the private colleges were involved in this area. Both of the two groups had similar problems with funding and inadequate facilities.

In 1979, Rudolph surveyed by questionnaire 88 colleges and universities in the United States with the objective of determining the characteristics of equine programs in higher education.

Rudolph reported that horses were ranked third in overall economic importance being preceded by beef and dairy cattle and followed by swine, poultry, and sheep. The most important category for horse enterprises was the pleasure/hobby classification followed by showing, breeding and management, and racing respectively. Rudolph also emphasized that the greatest demand for equine education was dominated by post-secondary education programs and 4-H programs.

Borton (1971) stated that he felt many institutions did not anticipate the growth in the horse industry and many of the institutions seem to be afraid to add horses to their curriculum because the horse industry is not on the same level as the cattle industry. Many of the older faculty members do not recognize the emphasis on horses as part of the animal science department because the horse is not used as a source of food. However, Borton (1971) is a supporter of the expansion of equine education programs in post-secondary institutions and explains his philosophy in the following manner:

> What I'd like to see develop is a situation where schools start to actually develop horse science programs with internships or programs worked out with breeders and horse people where students can entice and gain some practical experience to go along

> with the technical skills they learn in college. I think the time will come when these institutions will develop curriculum such as for a horse management major or a horse science major and things like that. Right now most programs aren't relating to the industry enough (p. 78).

Parli (1987) surveyed by questionnaire 92 vocational agriculture teachers in the Central District of Oklahoma. The primary objective of the study was to determine the competency levels of and pre-service training relative to light horses received by the teachers.

The competency with the highest mean response was deworming with 2.77. The competencies of history of the horse and floating teeth each had the lowest mean response of 2.07. The vocational agriculture teachers perceived themselves to be average in the competencies which received a mean response of 2.50 or better and perceived themselves to be below average in the competencies with a mean response of 2.49 or lower.

Parli determined that a large majority of the respondents did not have the college credit horse in light horse subject matter. Further, it was concluded that 62.3 percent of the vocational agriculture teachers had not attended any special light horse programs. The respondents that had attended some type of special program had attended one or more of the following: in-service training, vo-tech courses, clinics, workshops, breed programs, cooperative extension programs, and other programs such as horse shoeing school or horse shows.

Sixty point nine percent of the respondents did not devote any time to teaching light horse subject matter and 17.4 percent devoted less than one week to light horse related subject matter while 5.8 percent devoted four weeks to light horse subject matter.

Parli (1984) concluded that the vocational agriculture teachers had received little, if any, training in light horse related material. He further stated that:

> Since most of the vocational agriculture teachers do not teach light horse related subject matter in their vocational agriculture classes or train horse judging teams, the investigator concludes this may be a result of the lack of pre-service training involving study of the light horse (p. 38).

Parli (1984) concluded that there is a definite need for educational programs relative to light horses.

In a study similar to the Parli study, Cooper (1987) surveyed by questionnaire 69 county C.E.S. Agriculture Agents to determine the competency levels of and pre-service training received by the agents relative to light horses.

Cooper (1987) calculated the competency levels of the county C.E.S. Agriculture Agents by using a five point Likert type scale (Table I). To be classified as outstanding the mean response had to be in the range of 4.5 to 5.0; to be classified as above average the mean response had to be in the range of 3.50 to 4.49; to be classified as average the mean response had to be in the range of 2.50 to 3.49; to be classified as below average the mean response had to be in the range of 1.50 to 2.49; and, to be classified as poor the mean response had to be in the range of 1.0 to 1.49.

The county C.E.S. agents had the highest mean response on the parts of the horse with a mean response of 3.04 with the lowest competency being floating teeth with a mean response of 1.98. Competencies that had a mean response of 2.50 and above were rated average while competencies reported to have a mean response of 2.49 and

TABLE I

COMPARISON OF RANK ORDER AND MEAN RESPONSE OF COUNTY C.E.S AGRICULTURE AGENTS AND VOCATIONAL AGRICULTURE TEACHERS FROM HIGHEST TO LOWEST COMPETENCY LEVEL

Competency	County C.E.S. Ag Agents Mean Response	County C.E.S. Ag Agents Numerical Rank	County C.E.S. Ag Agents Inter-pretation	Vo-Ag Teachers Mean Response	Vo-Ag Teacher's Numerical Rank	Vo-Ag Teacher's Inter-pretation
Parts of Light Horse	3.04	1	Average	2.65	10	Average
Desirable Conformation and Disposition	3.02	2	Average	2.36	27	Below Average
Internal and External Parasites	2.89	3	Average	2.75	3	Average
Nutritional Requiremenrs	2.89	4	Average	2.59	15	Average
Management of Feeding Horses	2.87	5	Average	2.54	18	Average
Handling Horse Safely	2.84	6	Average	2.59	14	Average
Deworming	2.80	7	Average	2.77	1	Average
Distinguishing Between Natural Gaits	2.76	8	Average	2.49	21	Below Average
Judging	2.76	9	Average	2.61	11	Average
Health Maintenance and Disease Prevention	2.75	10	Average	2.70	5	Average
Breeds of Light Horses	2.71	11	Average	2.54	17	Average
Transportation	2.70	12	Average	2.61	12	Average
Uses of Light Horses	2.69	13	Average	2.70	4	Average
Color Markings	2.69	14	Average	2.67	8	Average
Evaluating Height	2.69	15	Average	2.59	13	Average
Basic First Aid	2.69	16	Average	2.68	6	Average
Vaccinating	2.69	17	Average	2.75	2	Average
Breaking Horses to Lead	2.64	18	Average	2.67	9	Average
Fundamentals of Foot care	2.62	19	Average	2.68	7	Average
Physical Equipment and Stable Management	2.62	20	Average	2.42	24	Below Average
Mating Procedures	2.58	21	Average	2.52	19	Average
Branding	2.56	22	Average	2.32	29	Below Average
Care of Mare and Foal	2.55	23	Average	2.45	22	Below Average
Selection and Care of Tack	2.55	24	Average	2.51	20	Average
Starting the Young Horse Under Saddle	2.51	25	Average	2.55	16	Average
Fertility and Genetics of Reproduction	2.45	26	Below Average	2.38	25	Below Average
History of Light Horses	2.42	27	Below Average	2.07	32	Below Average
Mouthing for Age	2.35	28	Below Average	2.42	23	Below Average
Care of Stallion	2.35	29	Below Average	2.35	28	Below Average
Foot Problems (Shoeing)	2.33	30	Below Average	2.36	26	Below Average
Castration	2.25	31	Below Average	2.30	30	Below Average
Advanced Performance Maneuvers	2.25	32	Below Average	2.09	31	Below Average
Floating Teeth	1.98	33	Below Average	2.07	33	Below Average

Source: Cooper Dee E. "Competency Levels of and Pre-Service Training Received by County Cooperative Extension Service Agriculture Agents in Oklahoma Relative to Light Horses." (Unpub. M.S. thesis, Oklahoma State University, 1987.)

below indicated that the county C.E.S. Agriculture Agent perceived themselves to be below average.

Cooper (1987) further concluded that like the vocational agriculture teachers in the Parli (1984) study, the county C.E.S. Agriculture Agents had very little college credit pertaining to light horses although the county C.E.S. Agriculture Agents seemed to be more interested in the horse programs as evidenced by their attendance at various light horse subject matter programs (Table II). The county C.E.S. Agriculture Agents placed more emphasis on special programs especially those produced by the Cooperative Extension Service.

Cooper (1987) emphasized the fact that because of 74.5 percent of the respondents were horse owners this may have contributed to the level of competency of the respondents because of the "hands-on" experience that they had received as owners. A further conclusion by Cooper supported by the review of literature and findings that there is a definite need for educational programs concerning light horses.

Summary of Review of Literature

Horses have been a major influence on the development of the United States serving as a companion in battle, work, and pleasure. The modern horse is increasing in popularity especially for pleasure and riding.

The image of the horse in Oklahoma has been unexcelled as evidenced by the quality of the horses on large breeding farms, presence of national shows, and the introduction of pari-mutual racing. Oklahoma currently ranks third in total horse numbers and first in horses per square mile.

TABLE II

COOPER'S STUDY COMPARISON OF PRE-SERVICE EXPERIENCE OF COUNTY C.E.S. AGRICULTURE AGENTS TO VOCATIONAL AGRICULTURE TEACHERS IN RELATION TO LIGHT HORSES

Pre-Service Experience	Frequency Distribution of Respondents No. %								Totals N	Totals %
	No College Hours	1 - 3 Hours	4 - 6 Hours	7 - 9 Hours	10 or more					
Completion of Higher Education Credit Hours										
CCESAA*	38 (69.1%)	13 (23.6%)	4 (7.3%)	-- ---	-- ---				55	100.0
VAT**	53 (76.8%)	12 (17.5%)	2 (2.9%)	1 (1.4%)	1 (1.4%)				69	100.0
	None	In-Service	Vo-Tech	Clinics	Workshops	Breed Programs	Coop. Extension	Other		
Participation in Various Programs										
CCESAA	12 (21.8%)	18 (32.7%)	-- ---	29 (52.7%)	28 (50.9%)	11 (20.0%)	30 (54.5%)	4 (7.3%)	*	*
VAT	43 (63.3%)	7 (10.1%)	6 (8.7%)	10 (14.5%)	8 (11.6%)	9 (13.0%)	4 (5.8%)	8 (11.6%)	*	*
	YES	NO								
Individuals Training Horse Judging Teams										
CCESAA	5 (9.1%)	50 (90.9%)							55	100.0
VAT	7 (10.1%)	62 (89.9%)							69	100.0
Individuals Who Have Been or Are Horse Owners										
CCESAA	41 (74.5%)	14 (25.5%)							55	100.0
VAT	52 (75.4%0	17 (24.6%)							69	100.0
Individuals Who Have Competed in Horse Events										
CCESAA	23 (41.8%)	32 (58.2%)							55	100.0
VAT	33 (47.8%)	36 (52.2%)							69	100.0

* Totals in this column do not total 100% because respondents could respond to more than one area.
** CESSAA - County Cooperative Extension Service Agriculture Agents
*** VAT - Vocational Agriculture Teachers

The increase in the popularity of light horses has prompted the educational community to introduce new programs and expand old programs that relate to equine education. Many educators feel that the programs should not only provide technical training but also provide for practical "hands on" experience.

Horse projects are quite high in popularity for young people involved in 4-H clubs. The 4-H members are instructed in basic horsemanship skills, nutrition, care of the horse, health problems, and selection of horses and tack. Also, the members participate in demonstrations, public speaking, showing, and judging.

Several studies have been conducted to characterize the existing equine education programs in the United States. Although many institutions are unsure of how to approach the increasing need for equine education, an effort is being made to provide programs in the area of equine science for those students interested in a career in the horse industry.

In summary, the review of literature revealed that the horse is a major part of the current livestock economy. Because of the increase in the horse industry, colleges and universities are recognizing the need for equine education programs by expanding programs to meet the needs of those students interested in a career in the horse industry. Furthermore, it has been concluded that more competent educators are needed to provide guidance for those individuals that are a part of the expanding horse industry.

CHAPTER III

METHODOLOGY

Introduction

This study was designed to determine the degree of competency and pre-service training relative to light horse related subject matter possessed by county C.E.S. 4-H Agents in Oklahoma. A further purpose was to determine the effects of pre-service training on light horse programs in 4-H.

This study is similar in nature to previous studies conducted by Parli (1984) and by Cooper (1987) which determined the competency levels of and pre-service training received by vocational agriculture teachers and county C.E.S. Agriculture Agents relative to light horse subject matter, respectively. This study was initiated to update the Parli (1984) and Cooper (1987) studies and is a result of a recommendation from the Cooper study that a study be conducted with 4-H Agents. A focus of this study is to determine the nature and extent that the competence and pre-service training of the 4-H Agents has on the current programs in Oklahoma 4-H relative to light horses.

Objectives of the Study

The objectives of this study were:

1. To acquire sufficient demographic data in order to characterize the county C.E.S. 4-H Agents in Oklahoma.

2. To determine the perceived degree of competence possessed by the county C.E.S. 4-H Agents in Oklahoma relative to light horse subject matter.

3. To determine the nature and extent of pre-service training received by county C.E.S. 4-H Agents in Oklahoma relative to light horses.

4. To determine the nature and extent of current programs in Oklahoma 4-H relative to light horses.

5. To compare perceived competence and pre-service training received by 4-H Agents to the current light horse programs being offered to determine if relationships exist.

6. To acquire sufficient data in order to make recommendations to the Oklahoma Cooperative Extension Service regarding the status of current light horse programs in Oklahoma 4-H.

Population

The population for this study consisted of 65 county C.E.S. 4-H Agents in Oklahoma which comprised 80 percent of the 81 county C.E.S. 4-H Agents in Oklahoma who were surveyed.

Development of the Instrument

Portions of the instrument used in this study were drawn from an instrument first developed by Parli (1984) and later used by Cooper (1987). However, certain additions were made to accomplish the purpose and objectives of this study.

The list of competencies included in this survey were identical to the competencies used by Parli (1984) and by Cooper (1987). The

competencies formulated by Parli (1984) were a result of his interviews with Topliff (1984) and Harp (1984). The competencies were divided into seven categories including:

1. Orientation
2. Selection and Judging
3. Health and Foot Care
4. Nutrition
5. Reproduction
6. Facilities and Equipment
7. Training Light Horses.

In order to meet the purpose and objectives of this study, the same questions (with the exception of the revisions to the demographic questions) were duplicated as in Cooper's (1987) study. Forced response questions were also utilized as well as specific questions that would permit open responses.

Collection of Data

As a result of an interview with Dr. James Netherton, Personnel Director, Cooperative Extension Service, Oklahoma State University, it was determined that there were 81 county C.E.S. 4-H Agents surveyed for this study. September 1, 1989 each county C.E.S. 4-H Agent in Oklahoma was mailed a questionnaire along with a cover letter (Appendix D). A self-addressed stamped envelope was enclosed for the 4-H Agent to return the completed instrument. On September 19, 1989, a follow-up letter (Appendix E) and questionnaire were mailed to the non-respondents as well as a self-addressed stamped envelope for the return of the completed instrument.

A follow-up of non-respondents by telephone interview found the non-respondents to be no different than the respondents in regard to level of education, years of experience, and hours of college credit earned in light horse subject matter. Therefore, it was felt that their response would not substantially differ from those of the group who did respond.

Analysis of Data

The data were compiled and tabulated using descriptive statistics such as frequencies, percentages, mean responses, and rankings.

The degree of competency was measured using a five-category self-rating scale. Outstanding mean responses were those receiving mean responses in the range of 4.5 to 5.0; to be classified as above average the mean response had to be in the range of 3.50 to 4.49; to be classified as Average the mean response had to be in the range of 2.50 to 3.49; to be classified as Below Average the mean response had to be in the range of 1.50 to 2.49; and, to be classified as Poor the mean response had to be in the range of 1.00 to 1.49.

CHAPTER IV

PRESENTATION AND ANALYSIS OF DATA

The purpose of this chapter is to present and analyze the data collected in this study.

The population for this study consisted of the county C.E.S. 4-H Agents in Oklahoma. The 65 respondents to the mailed questionnaire comprised 80 percent of the 81 county C.E.S. 4-H Agents in Oklahoma who were surveyed. A number of the respondents were home economics majors but had 4-H responsibilities. Since these respondents are not involved with animal projects in 4-H, they did not answer every question on the questionnaire dealing with animals. For this reason, the number of responses on some questions vary (See Table III).

In Table IV, the frequency distribution of county C.E.S. 4-H Agents by their level of education is presented. Of the 65 respondents, 23 (35.4 percent) had a Bachelor of Science degree, ten (15.4 percent) held a Bachelor of Science degree plus 15 hours, while 23 (35.4 percent) possessed a Master of Science degree. Of the remaining 13.8 percent of the respondents, eight (12.3 percent) had a Master of Science degree plus 15 hours with one respondent (1.5 percent) possessing a Doctor of Education degree.

Table V indicates the number of years the respondents have been county C.E.S. 4-H Agents. Fourteen (21.5 percent) of the respondents placed themselves in the category of zero to three years of

TABLE III

DISTRIBUTION OF COUNTY C.E.S. 4-H AGENTS BY TYPE OF RESPONSE TO THE MAILED QUESTIONNAIRE

Category	Distribution N	%
Respondents	65	80.0
Non-Respondents	14	20.0
Total	81	100.0

TABLE IV

DISTRIBUTION OF COUNTY C.E.S. 4-H AGENTS BY LEVELS OF EDUCATION

Education	Distribution N	%
Bachelor of Science	23	35.4
Bachelor of Science plus 15	10	15.4
Master of Science	23	35.4
Master of Science plus 15	8	12.3
Doctor of Education	1	1.5
Other	0	0.0
Total	65	100.0

TABLE V

DISTRIBUTION OF COUNTY C.E.S. 4-H AGENTS
BY YEARS OF EXPERIENCE

Years of Experience	Distribution N	%
0 - 3	14	21.5
4 - 7	21	32.3
8 - 11	18	27.7
12 - 15	7	10.8
16 or more	5	7.7
Total	65	100.0

Mean years of experience - 7.5 years

experience, while 21 (32.3 percent) of the respondents were in the largest category having four to seven years of experience. The category of eight to 11 years had 18 (27.7 percent) respondents. The remaining categories of 12 to 15 years and 16 years or more had seven (10.8 percent) respondents and five (7.7 percent) respondents, respectively.

In Table VI, the number and percentage of respondents by levels pertaining to the completion of higher education credit hours in light horse related subject matter are presented. The largest category of respondents, 46 (70.8 percent), had no college hours in light horse related subject matter completed, while 15 (23.1 percent) respondents had completed one to three hours of college credit. While no respondents had completed four to six hours of college credit, the remaining four respondents had completed seven or more hours of college hours in light horse related subject matter with one (1.5 percent) respondent in the category of seven to nine hours completed and three (4.6 percent) of the respondents having completed more than ten hours of credit in horse courses. The respondents were asked on the questionnaire to list the names of light horse subject matter courses and the value of each course to current competencies possessed in horse related subject matter. The values were rated on a scale of one to five with one being the lowest and five being the highest. The most popular course among the respondents with college credit was Horse Production. Other courses taken by the respondents were Equine Management, Equine Selection, Equine Nutrition, Equine Housing, Horsemanship, Introduction to the Horse Racing Industry, Animal Racing Law I, and Horse Shoeing. The value of each group to the competencies possessed by the respondents

TABLE VI

DISTRIBUTION OF POPULATION BY COMPLETION OF HIGHER EDUCATION CREDIT HOURS IN LIGHT HORSE RELATED SUBJECT MATTER

Number of Hours	Distribution N	%
No College Hours	46	70.8
1 - 3	15	23.1
4 - 6	0	0.0
7 - 9	1	1.5
10 or more	3	4.6
Total	65	100.0

is illustrated in Table VII. The highest rated course in light horse subject matter was Equine Nutrition with the mean value of 4.5. The course in Equine Nutrition was taken by only two respondents for a mean hours completed of 3.5 hours. Equine Selection, 3.3, was the second highest rated course with three respondents and the mean hours completed of 2.71 hours. This course was closely followed by Horse Production with 18 respondents and a mean value of 3.2. The remaining courses listed in descending order according to the mean value are as follows: Equine Management, 3.0; Equine Housing, 3.0; Horsemanship, 2.0; Horse Shoeing, 2.0; Horse Racing Industry, 1.0; and Animal Racing Laws, 1.0. Note that the three lowest rated courses only had one respondent answering in that category.

The number and percentages of respondents, according to participation in various types of pre-service light horse related programs, are presented in Table VIII. It should be noted the number of responses varies in Table VIII because the respondents were allowed to indicate more than one response. Of the 65 respondents, 20 (30.8 percent) had not attended any special programs pertaining to light horse subject matter. The largest number of respondents, 32 (49.2 percent), had attended in-service programs, while 31 (47.7 percent) had attended Cooperative Extension Programs. Twenty (30.8 percent) respondents had participated in both clinics and workshops, while six (9.2 percent) attended breed programs and three (4.6 percent) had taken part in vocational-technical courses. Seven (10.8 percent) respondents were in the other category and listed events such as horse shows, horse judging contests, horse shoeing school, and horse racing programs as a

TABLE VII

VALUE OF COURSES TAKEN BY COUNTY C.E.S. 4-H AGENTS
RELATING TO LIGHT HORSE SUBJECT MATTER

Course Area	Mean Hours Completed	Distribution by Value Rating										Total N	Mean Value
		1		2		3		4		5			
		N	%	N	%	N	%	N	%	N	%		
Horse Production	3.1	--	--	4	22.2	7	38.9	6	33.3	1	5.6	18	3.2
Equine Management	3.5	--	--	--	--	2	100.0	--	--	--	--	2	3.0
Equine Selection	2.7	--	--	1	3.33	--	--	2	66.7	--	--	3	3.3
Equine Nutrition	3.5	--	--	--	--	--	--	1	50.0	1	50.0	2	4.5
Equine Housing	3.0	--	--	--	--	2	100.0	--	--	--	--	2	3.0
Horsemanship	3.5	--	--	2	100.00	--	--	--	--	--	--	2	2.0
Horse Racing Industry	3.0	1	100.0	--	--	--	--	--	--	--	--	1	1.0
Animal Racing Industry	3.0	1	100.0	--	--	--	--	--	--	--	--	1	1.0
Horse Shoeing	3.0	--	--	1	100.00	--	--	--	--	--	--	1	2.0

TABLE VIII

DISTRIBUTION OF COUNTY C.E.S. 4-H AGENTS BY PARTICIPATING IN VARIOUS TYPES OF LIGHT HORSE RELATED PROGRAMS

Type of Program	Distribution N*	%
None	20	30.8
In-service Training	32	49.2
Vo-Tech Courses	3	4.6
Clinics	20	30.8
Workshops	20	30.8
Breed Programs	6	9.2
Cooperative Extension Programs	31	47.7
Other	7	10.8

N = 65
*Note: A total of respondents was not calculated because respondents were allowed to indicate more than one type of program.

source of additional experience. Note the number of responses varies in Table VIII because the respondents were allowed to indicate more than one response.

Table IX represents the number and percentage of respondents and the rank order of program areas in terms of their requirement on the respondents' time. The program areas to be ranked were horse, beef, sheep, swine, other animals, and non-animal projects. To establish an overall ranking, the procedure of sum of ranks and mean responses was used. The sum of ranks was computed by taking the number in each category and multiplying by the number of rank for that particular category. The mean rank was found by dividing the sum of ranks by the total number of responses in that category. The overall ranking was established on the basis of the order of mean rankings with the lowest being ranked first and so on until all categories were assigned a rank. Thus, the highest ranking program area in terms of requirements on the work time of county C.E.S. 4-H Agents was the non-animal projects which was given a number one ranking by 45 respondents and a mean rank of 1.88. This was followed by beef projects with a mean rank of 2.40. The third highest ranked program area in terms of requirements on the work time of the respondents was the sheep program which earned a mean rank of 3.52, closely followed by the swine program with a mean rank of 3.68. Of the two remaining project areas, horse programs were ranked fifth, having a mean rank of 4.08 with the sixth being the "other" animal category with a mean rank of 5.10. It should be noted the number of responses varies because the respondents ranked only those categories in which they were involved; therefore, each respondent did not rank each category.

TABLE IX

RANKING OF PROJECT PROGRAM AREAS IN TERMS OF WORK TIME REQUIREMENTS

	Distribution by Rank Categories									
Program Area	1	2	3	4	5	6	Sum of Ranks	N	Mean Rank	Overall Rank
Horse	1	6	12	12	21	6	238	58	4.08	5
Beef	15	23	9	6	6	0	142	59	2.40	2
Sheep	1	9	18	19	8	2	201	57	3.52	3
Swine	3	7	18	13	11	6	214	58	3.68	4
Other Animals	0	7	3	3	8	36	291	57	5.10	6
Non-Animal Projects	45	5	1	4	3	5	119	63	1.88	1

Table X was structured to indicate the activities that the county C.E.S. 4-H Agents conducted or participated. Of the 65 respondents, 44 (67.7 percent) were involved with horse shows and 28 (43.1 percent) conducted or participated in clinics. Eight (12.3 percent) respondents currently train a horse judging team, while 17 (26.2 percent) respondents were involved with the horse skills manual series and 20 (30.8 percent) conduct consultations with horse owners. Of the remaining 41.5 percent of the respondents, six (9.2 percent) participated or conducted horse short courses and 21 (32.3 percent) of the respondents cited other activities such as 4-H horse clubs, fairs, judging contests, and rodeos as the activities that they participated in or conducted. Under the "other" category on the questionnaire, several respondents indicated they were responsible for the training of project leaders and in some instances, delegated the participation in the listed activities to those project leaders.

The distribution of respondents reported in Table XI was in response to the following question: "Are you now or have you ever been a horse owner?" A majority of the respondents, 49 (75.4 percent), reported that they had been or were currently horse owners, while 16 (24.6 percent) of the respondents had not been horse owners.

In Table XII, the number and percentage of respondents who have competed in light horse related competitive events, such as horse shows, rodeos, et cetera were represented. Twenty-seven (41.5 percent) of the 65 respondents reported that they had competed in light horse competitive events, while 38 (58.5 percent) of the respondents had not competed in light horse competitive events.

TABLE X

DISTRIBUTION OF COUNTY C.E.S. 4-H AGENTS BY THE ACTIVITIES THEY CONDUCT OR PARTICIPATE IN

Type of Activity	Distribution N*	%
Horse Shows	44	67.7
Clinics	28	43.1
Horse Judging Team	8	12.3
Horse Skills Manual Series	17	26.2
Consultation with Horse Owners	20	30.8
Horse Short Course	6	9.2
Other	21	32.3

N = 65

*Note: A total of respondents was not calculated because respondents were allowed to indicate more than one type activity.

TABLE XI

DISTRIBUTION OF COUNTY C.E.S. 4-H AGENTS WHO PRESENTLY ARE OR HAVE BEEN HORSE OWNERS

Horse Owners	Distribution N	%
Yes	49	75.4
No	16	24.6
Total	65	100.00

TABLE XII

DISTRIBUTION OF COUNTY C.E.S. 4-H AGENTS WHO HAVE COMPETED IN LIGHT HORSE EVENTS

Have Competed in Events	Distribution N	%
Yes	27	41.5
No	38	58.5
Total	65	100.00

A determination of the competencies possessed by county C.E.S. 4-H Agents in Oklahoma relative to light horse subject matter was another of the objectives of this study. To accomplish this, the county C.E.S. 4-H Agents were asked to rate their degree of competency in several areas by means of a five-category self-rating scale consisting of the categories of "poor," "below average," "average," "above average," and "outstanding" for each skill. To summarize these inputs, mean responses were calculated by multiplying the number of responses in each category by the value of that category. The sum of each category was then divided by the total number of responses. To interpret these means, a range of response limits was employed as follows: poor mean responses were those receiving mean responses in the range of 1.00 to 1.49; to be classified as Below Average the mean response had to be in the range of 1.50 to 2.49; to be classified as Average the mean response had to be in the range of 2.50 to 3.49; to be classified as above average the mean response had to be in the range of 3.50 to 4.49d and to be classified as Outstanding the mean response had to be in the range of 4.50 and above. The distribution and mean responses were computed and reported for each competency.

In Table XIII, self-ratings on three competency areas related to light horse orientation were reported. For the area of history of the light horse, 60 percent of the respondents indicated their level of competence was no higher than "below average." Only 4.6 percent rated themselves as "outstanding." The mean responses was 2.26 which was categorized as a "below average" level of competence relative to the history of the light horse. A mean of 2.62, which translated into a competency rating of "average" relative to breeds of the light horse 13

TABLE XIII

DISTRIBUTION AND MEAN RESPONSE OF COUNTY C.E.S.
4-H AGENTS RELATING TO THEIR COMPETENCIES
IN LIGHT HORSE ORIENTATION

	Poor		Below Average		Average		Above Average		Out-standing		Total		Mean Response	
	N	%	N	%	N	%	N	%	N	%	N	%		
History of Light Horses	20	30.8	19	29.2	18	27.7	5	7.7	3	4.6	65	100.0	2.26	Below Avg
Breeds of Light Horses	14	21.5	11	16.9	28	43.1	10	15.4	2	3.1	65	100.0	2.62	Average
Uses of Light Horses	13	20.0	7	10.8	32	49.2	12	18.5	1	1.5	65	100.0	2.70	Average

Overall Mean Response - 2.53 Average

was calculated from responses to this item. Of the respondents to this category, 61.4 percent considered themselves to be "average" or above in relation to this competency. In the remaining category of Table XIII, uses of the light horse, 20 percent of the respondents reported a "poor" level of competence, while a majority of the respondents (49.2 percent) felt they were "average" in this regard. The consolidation of these ratings led to a mean response of 2.70 for the skill area of uses of the light horse. By combining the total responses to all of the categories in this area, the calculated overall mean rating was 2.53 or "average" for the area of orientation.

Table XIV contains the findings as to seven categories dealing with selection and judging. County C.E.S. 4-H Agents perceived themselves to be "average" in the knowledge of the parts of the light horse with a mean response of 2.86. This was the highest level of competence calculated in this area. Seventy-five percent of the Agents indicated their competency level to be no higher than "average", while 7.7 percent of the respondents reported an "outstanding" rating.

In the area of desirable conformation and disposition, a mean response of 2.78 and an overall rating of "average" made this the area with the next highest competency rating. Of the entire group, 58.5 percent reported an "average" or "above average" response.

The third greatest level of competence, with a mean response of 2.55 and an overall rating of "average," was reported for the county C.E.S. 4-H Agents in the area of color markings. While 50.7 percent of the agents reported a competency rating of no higher than "below average", 21.6 percent indicated that their knowledge of color markings rated them "above average" or higher.

TABLE XIV

DISTRIBUTION AND MEAN RESPONSE OF COUNTY C.E.S. 4-H AGENTS RELATING TO THEIR COMPETENCIES IN SELECTION AND JUDGING OF LIGHT HORSES

	Poor		Below Average		Average		Above Average		Out-standing		Total		Mean	Response
	N	%	N	%	N	%	N	%	N	%	N	%		
Parts of the Light Horse	9	13.8	12	18.5	28	43.1	11	16.9	5	7.7	65	100.0	2.86	Average
Desirable Conformation and Disposition	11	16.9	13	20.0	23	35.4	15	23.1	3	4.6	65	100.0	2.78	Average
Color Markings	14	21.5	19	29.2	18	27.7	10	15.4	4	6.2	65	100.0	2.55	Average
Mouthing for Age	19	29.2	22	33.8	18	27.7	5	7.7	1	1.5	65	100.0	2.18	Below Avg
Evaluating Height	13	20.0	17	26.2	25	38.4	8	12.3	2	3.1	65	100.0	2.52	Average
Distinguishing Between Natural Gaits	18	27.7	21	32.3	15	23.1	8	12.3	3	4.6	65	100.0	2.34	Below Avg
Judging	15	23.1	17	26.2	23	35.4	7	10.7	3	4.6	65	100.00	2.48	Below Avg

Overall Mean Response = 2.53 Average

The data in the category of evaluating height revealed that 13 (20.0 percent) of the respondents perceived their competence level to be "poor," while 53.8 percent perceived their knowledge of this category to be "average" or better. Overall, the county C.E.S. 4-H Agents reported themselves to be of "average" competence with a mean response of 2.52. The latter figure made this the fourth highest rated category.

As can be seen in Table XIV, 50.7 percent of the respondents reported an "average" or higher rating of their competency in the category of judging light horses even though the overall mean response of 2.48 for this category indicates that the respondents perceived themselves to be "below average."

The county C.E.S. 4-H Agents perceived themselves to be "below average" in the competency required for distinguishing between natural gaits and a mean response of 2.34. The results indicated that 60 percent of the agents felt their knowledge in this category rated no higher than "below average." The "outstanding" rating was given by only 4.6 percent of the respondents.

In the area of mouthing for age, the majority of the respondents, 63.1 percent, assessed their competence to be no higher than "below average." Only one respondent rated this "outstanding." The respondent's competence was perceived to be "below average" overall in this category, with a mean response of 2.18, making this the lowest rated category in this area. The consolidation of the ratings to all of the categories in this area led to a mean of 2.53 or "average" for the area of selection and judging.

Table XV reports the findings for ten categories in the area of health and foot care. The category of basic first aid received the highest mean competency rating by respondents, 2.52, or "average." The remainder of the categories were rated no higher than "below average." The categories arranged in descending order according to mean ratings were as follows: deworming, 2.49; internal-external parasites, 2.48; vaccinating, 2.42; health maintenance and disease prevention, 2.37; fundamentals of foot care (trimming), 2.35; branding, 2.23; castration, 2.06; foot problems (shoeing), 2.05; and floating teeth, 1.88. By combining the total responses to all of the categories in this area, the calculated overall mean rating was 2.28 or "below average" for the area of health and foot care.

The highest level of competence, for the area of nutrition reported in Table XVI, with a mean rank of 2.45 revealed that the county C.E.S. 4-H Agents perceived themselves to be "below average" with respect to their knowledge of the nutritional requirements of horses. Of the entire group, 86.1 percent considered their competence to be no higher than "average."

In the area of management of feeding horses, 52.3 percent of the respondents perceived their competence level to be no higher than "below average" thus, the overall competency rating of 2.43 for the whole group and a "below average" rating. The consolidation of the ratings for the area of nutrition led to a mean of means of 2.44 and an overall competence rating of "below average."

Table XVII relates to competency levels of county C.E.S. 4-H Agents in regard to reproduction and is composed of four categories.

TABLE XV

DISTRIBUTION AND MEAN RESPONSE OF COUNTY C.E.S. 4-H AGENTS RELATING TO THEIR COMPETENCIES IN HEALTH AND FOOT CARE

	Poor		Below Average		Average		Above Average		Out-standing		Total		Mean Response
	N	%	N	%	N	%	N	%	N	%	N	%	
Health Maintenance & Disease Prevention	14	21.5	20	30.8	25	38.5	5	7.7	1	1.5	65	100	2.37 Below Avg
Internal & External Parasites	15	23.1	15	23.1	25	38.5	9	13.8	1	1.5	65	100	2.48 Below Avg
Basic First Aid	13	20.0	22	33.8	21	32.3	11	16.9	-	---	65	100	2.52 Average
Fundamentals of Foot Care (Trimming)	13	20.0	25	38.5	20	30.8	5	7.7	2	3.1	65	100	2.35 Below Avg
Foot Problems (Shoeing)	18	27.7	32	49.2	11	16.9	2	3.1	2	3.1	65	100	2.05 Below Avg
Vaccinating	14	21.5	19	29.2	23	35.4	9	13.8	-	---	65	100	2.42 Below Avg
Deworming	15	23.1	13	20.0	24	36.9	11	16.9	1	1.5	65	100	2.49 Below Avg
Branding	17	26.2	22	33.8	17	26.2	7	10.8	1	1.5	65	100	2.23 Below Avg
Castration	17	26.2	30	46.2	15	23.1	3	4.6	-	---	65	100	2.06 Below Avg
Floating Teeth	22	33.8	31	47.7	10	15.4	2	3.1	-	---	65	100	1.88 Below Avg

Overall Mean Response = 2.28 Below Average

TABLE XVI

DISTRIBUTION AND MEAN RESPONSE OF COUNTY C.E.S. 4-H AGENTS RELATING TO THEIR COMPETENCIES IN NUTRITION

	Poor		Below Average		Average		Above Average		Out-standing		Total		Mean Response	
	N	%	N	%	N	%	N	%	N	%	N	%		
Management of Feeding Horses	14	21.5	20	30.8	20	30.8	11	16.9	-	---	65	100	2.43	Below Avg
Nutritional Requirements	13	20.0	19	29.2	24	36.9	9	13.9	-	---	65	100	2.45	Below Avg

Overall Mean Response = 2.44 Below Average

TBLE XVII

DISTRIBUTION AND MEAN RESPONSE OF COUNTY C.E.S. 4-H AGENTS RELATING TO THEIR COMPETENCIES IN REPRODUCTION

	Poor		Below Average		Average		Above Average		Out-standing		Total		Mean Response
	N	%	N	%	N	%	N	%	N	%	N	%	
Mating Procedure	14	21.5	20	30.8	21	32.3	9	13.9	1	1.5	65	00	2.43 Below Avg
Fertility & Genetics of Reproduction	17	26.2	21	32.3	21	32.3	6	9.2	-	---	65	100	2.25 Below Avg
Care of the Mare & Foal	16	24.6	20	30.8	19	29.2	9	13.9	1	1.5	65	100	2.37 Below Avg
Care of the Stallion	19	29.2	24	36.9	17	26.2	5	7.7	-	---	65	00	2.12 Below Avg

Overall Mean Response = 2.29 Below Average

The category of mating procedure received the highest mean competency rating by respondents, 2.43 or "below average." The remainder of the categories were also rated no higher than "below average." The categories arranged in descending order according to mean ratings were as follows: care of the mare and foal, 2.37; fertility and genetics of reproduction, 2.25; and care of the stallion, 2.12. By combining the total response to all of the categories in this area, the calculated overall mean rating was 2.29 or "below average" for the area of reproduction.

Table XVIII contains four categories in the area of facilities and equipment. The categories of handling horses safely and transportation of the horse each received the highest mean competency rating by respondents, 2.58, or "average." In the area of transportation, 32.3 percent of the respondents considered themselves to be "average," whereas 30.8 percent of the respondents perceived their knowledge to be "average" in regard to handling horses safely.

The data relating to the selection and care of tack revealed that 63.1 percent of the respondents assessed their competence to be either "below average" or "average," while 4.6 percent considered their knowledge to be "outstanding." The overall mean response was 2.46 or "below average" for selection and care of tack.

The county C.E.S. 4-H Agents perceived themselves to be "below average" in relation to physical facilities and stable management with a mean response of 2.43 making this the lowest rated category in this area. The results indicated that 84.6 percent of the agents felt their knowledge in this category rated no higher than "average." The consolidation of the ratings in the area of facilities and equipment

TBLE XVIII

DISTRIBUTION AND MEAN RESPONSE OF COUNTY C.E.S. 4-H AGENTS RELATING TO THEIR COMPETENCIES IN FACILITIES AND EQUIPMENT

	Poor		Below Average		Average		Above Average		Out-standing		Total		Mean Response	
	N	%	N	%	N	%	N	%	N	%	N	%		
Physical Facilities & Stable Mgmt.	15	23.1	18	27.7	22	33.8	9	13.9	1	1.5	65	100	2.43	Below Avg
Selection & Care of Tack	14	21.5	20	30.8	21	32.3	7	10.8	3	4.6	65	100	2.46	Below Avg
Handling Horses Safely	13	20.0	18	27.7	20	30.8	11	16.9	3	4.6	65	100	2.58	Below Avg
Transportation of the Horse	13	20.0	18	27.7	21	32.3	9	13.8	4	6.2	65	100	2.58	Below Avg

Overall mean response = 2.52 - Average

led to an overall mean of means of 2.52 or "average" for this area.

Table XIX is composed of three categories that relate to the competency levels of county C.E.S. 4-H Agents in regard to training horses. In the first category, which related to breaking horses to lead, the respondents as a whole perceived themselves to be "below average" with a mean response of 2.35, making this the highest rated category in this area. The results indicated that 58.4 percent of the agents felt their knowledge in this category rated no higher than "below average." The "outstanding" rating was held by only 3.1 percent of the respondents.

In the area of starting the young horse under saddle, the majority of the respondents, 61.6 percent, assessed their competence to be no higher than "below average." Only one respondent rated this "outstanding." The respondents' competence was perceived to be "below average" overall in this category, with a mean rating of 2.28. The latter figure made this the second highest category.

The final category in Table XIX relates to advanced performance maneuvers where 75.4 percent of the county C.E.S. 4-H Agents perceived their knowledge to be no higher than "below average." A mean response of 1.98 indicates that the county C.E.S. 4-H Agents perceived their competency in relation to advanced performance maneuvers to be below average, making this the lowest rated category in this area. By combining the total responses to all of the categories in this area, the calculated overall mean rating was 2.21 or "below average" for the area of training light horses.

TABLE XIX

DISTRIBUTION AND MEAN RESPONSE OF COUNTY C.E.S. 4-H AGENTS RELATING TO THEIR COMPETENCIES IN TRAINING LIGHT HORSES

	Poor		Below Average		Average		Above Average		Out-standing		Total		Mean Response	
	N	%	N	%	N	%	N	%	N	%	N	%		
Breaking Horses to Lead	16	24.6	22	33.8	17	26.2	8	12.3	2	3.1	65	100	2.35	Below Avg
Starting the Young Horse Under Saddle	17	26.2	23	35.4	16	24.6	8	12.3	1	1.5	65	100	2.28	Below Avg
Advanced Performance Maneuvers	21	32.3	28	43.1	12	18.5	4	6.2	-	---	65	100	1.98	Below Avg

Overall Mean Response = 2.21 Below Average

CHAPTER V

FINDINGS, CONCLUSIONS, AND RECOMMENDATIONS

The intent of this chapter is to present a concise summary of the study, its design, and the major findings. Based on the summarization of the data collected, the conclusions and recommendations are also presented.

Purpose of the Study

The purpose of this study was to determine the degree of competency and pre-service training relative to light horse related subject matter possessed by county C.E.S. 4-H Agents in Oklahoma and to determine the effects of this pre-service training in light horse programs in 4-H.

Objectives of the Study

The objectives of this study were:

1. To acquire sufficient demographic data in order to characterize the county C.E.S. 4-H Agents in Oklahoma who are involved in providing leadership to light horse programs.

2. To determine the perceived degree of competence possessed by the county C.E.S. 4-H Agents in Oklahoma relative to light horse subject matter.

3. To determine the nature and extent of pre-service training received by county C.E.S. 4-H Agents in Oklahoma relative to light horses.

4. To determine the nature and extent of current programs in Oklahoma relative to light horses.

5. To compare perceived competence and preservice training received by 4-H Agents to the current light horse programs being offered to determine if relationships exist.

6. To acquire sufficient data in order to make recommendations to the Oklahoma Cooperative Extension Service regarding the status of current light horse programs in Oklahoma 4-H.

Design of the Study

This study was similar in nature to previous studies conducted by Parli (1984) and by Cooper (1987) which determined the competency levels of and pre-service training received by vocational agriculture teachers and county C.E.S. Agriculture Agents relative to light horse subject matter, respectively. This study was initiated to update the Parli (1984) and Cooper (1987) studies and is a recommendation from the Cooper (1987) study that a study be conducted with 4-H Agents. Portions of the instrument used for this study were drawn from an instrument first developed by Parli and later used by Cooper. However, certain additions were made to accomplish the purpose and objectives of this study.

The population for this study consisted of 81 county C.E.S. 4-H Agents in Oklahoma. Questionnaires, used to collect data, were mailed to each of the 81 county C.E.S. 4-H Agents in Oklahoma. A total of 65 (80.0 percent) county C.E.S. 4-H Agents responded to the mailed

questionnaire.

Major Findings of the Study

The major findings of this study were divided into five sections. They were as follows:

1. General Characteristics of the Respondents.
2. Competencies Possessed Relative to Light Horses.
3. Pre-service Experiences Gained in Relation to Light Horses.
4. The Extent of Current Programs in Oklahoma 4-H Relative to Light Horses.
5. Comparison of Perceived Competence and Pre-service Training Received by 4-H Agents to the Current Light Horse Programs.

General Characteristics of the Respondents

As to the educational level of the respondents it was revealed that 49.2 percent possessed a Master of Science degree or above, while 15.4 percent had completed at least 15 hours above a Bachelor of Science degree. The remaining respondents possessed a Bachelor of Science degree.

The largest groups of respondents, 53.8 percent, had seven or less years of experience, while the remaining 46.2 percent had more than eight years experience. The mean years experience was 7.5 years.

Competencies Possessed Relative
to Light Horses

The rank order of the county C.E.S. 4-H Agents competency level with the highest mean response ranked first can be found in Table XX. The competencies are not categorized as they were on the questionnaire to permit the reporting of the rank order.

The competency with the highest mean response was Parts of the Light Horse with 2.86, while the competency with the lowest mean response mean response was Floating Teeth with 1.88. Competencies with a mean response of 2.50 and above indicated the county C.E.S. 4-H Agents perceived themselves to be average in that category. In addition to the Parts of the Light Horse, there included desirable conformation and disposition, uses of the light horse, breeds of the light horse, handling horses safely, transportation of the horse, color markings, evaluating height, and basic first aid. For the remainder of the competencies reported in Table XX, each receiving a mean response of 2.49 and below, the county C.E.S. 4-H Agents perceived themselves to be below average in their levels of competence.

Table XXI relates the overall mean responses as to the levels of competence in the more inclusive groupings of light horse skill areas. The skill areas with the highest mean responses, were the areas of Orientation (2.53) and Selection and Judging (2.53), while the area of Training Light Horses ranked lowest with an overall mean response of 2.21. The overall mean responses for the skill areas were derived by combining the total responses to all of the categories in that area. An overall mean response of 2.50 and above indicated that the county

TABLE XX

RANK ORDER OF MEAN RESPONSES
BY COMPETENCY LEVELS

Competency	Mean Response	Overall Rank
Parts of the Light Horse	2.86	1
Desirable Conformation and Disposition	2.78	2
Uses of the Light Horse	2.70	3
Breeds of the Light Horse	2.62	4
Handling Horses Safely	2.58	5
Transportation of the Horse	2.58	6
Color Markings	2.55	7
Evaluating Height	2.52	8
Basic First Aid	2.52	9
Deworming	2.49	10
Judging	2.48	11
Internal and External Parasites	2.48	12
Selection and Care of Tack	2.46	13
Nutritional Requirements	2.45	14
Management of Feeding Horses	2.43	15
Mating Procedure	2.43	16
Physical Facilities & Stable Management	2.43	17
Vaccinating	2.42	18
Health Maintenance & Disease Prevention	2.37	19
Care of Mare and Foal	2.37	20
Fundamentals of Foot Care	2.35	21
Breaking Horses to Lead	2.35	22
Distinguishing Between Natural Gaits	2.34	23
Starting the Young Horse Under Saddle	2.28	24
History of the Light Horse	2.26	25
Fertility & Genetics of Reproduction	2.25	26
Branding	2.23	27
Mouthing for Age	2.18	28
Care of the Stallion	2.12	29
Castration	2.06	30
Foot Problems	2.05	31
Advanced Performance Manuevers	1.98	32
Floating Teeth	1.88	33

TABLE XXI

OVERALL MEAN RESPONSES BY LIGHT HORSE SKILL AREAS

Area	Mean Response	
Orientation	2.53	Average
Selection and Judging	2.53	Average
Health and Foot Care	2.28	Below Average
Nutrition	2.44	Below Average
Reproduction	2.29	Below Average
Facilities and Equipment	2.52	Average
Training Light Horses	2.21	Below Average

C.E.S. 4-H Agents' overall competency in that area was average, whereas, an overall mean response of 2.49 and below indicated that the competency level for the skill area was below average.

Pre-service Experience Gained in Relation to Light Horses

A large majority of the respondents, 70.8 percent, had no college credit in light horse related subject matter. While 23.1 percent of the respondents had completed one to three hours of credit, the remaining 6.1 percent had completed seven or more hours of college credit in light horse related subject matter.

The respondents were asked on the questionnaire to list the light horse subject matter courses and the value of each course to current competencies possessed in horse related subject matter. The values were rated on a scale of one to five with one being the lowest and five being the highest. The majority of the respondents who answered this question had taken a course in Horse Production. Other courses taken by the respondents were Equine Management, Equine Selection, Equine Nutrition, Equine Housing, Horsemanship, Introduction to the Horse Racing Industry, Animal Racing Laws I, and Horse Shoeing. The highest rated course was Equine Nutrition with a mean value of 4.5, while the two lowest rated courses, Introduction to the Horse Racing Industry and Animal Racing Laws I, each received a value rating of 1.0.

Of the 65 respondents, 30.8 percent had not attended any special programs pertaining to light horse subject matter, while 96.9 percent of the respondents had either attended in-service programs, Cooperative Extension Programs, or both. The remaining respondents indicated they

had attended one or more of the following: clinics, workshops, vo-tech courses, breed programs, and other programs which included horse shows, horse judging contests, horse shoeing school, and horse racing programs as a source of additional experience.

The majority of the respondents, 49 (75.4 percent), had been or presently were horse owners.

Twenty-seven (41.5 percent) of the respondents indicated they had competed in competitive events such as horse shows, rodeos, et cetera, while 38 (58.5 percent) had not competed.

The Extent of Current Programs in Oklahoma 4-H Relative to Light Horses

To determine the requirements that program areas place on the work time of the county C.E.S. 4-H Agents, the Agents were asked to rank the program areas of horse, beef, sheep, swine, other animals, and non-animal projects in terms of their requirement on the respondents' time. The highest ranking program area was the non-animal projects with a mean rank of 1.88, followed by beef projects with a mean rank of 2.40. The remainder of the projects arranged in rank order, according to mean rank, were sheep (3.52), swine (3.68), horse (4.08), and "other" animal projects (5.10).

A majority of the respondents, 67.7 percent, have either conducted or participated in horse shows, whereas, 43.1 percent of the respondent have been involved with clinics. Only 12.3 percent of the county C.E.S. 4-H Agents presently train a horse judging team, but 26.2 percent of the Agents were involved with the horse skills manual series. While

only 9.2 percent of the respondents conduct or participate in horse short courses, 20 of the respondents are involved with consultations with horse owners. The remaining 32.3 percent of the respondents cited "other" activities such as 4-H Horse Club, fairs, judging contests, and rodeos as the activities that they participate in or conduct.

Comparison of Perceived Competence and Preservice Training Received by 4-H Agents to the Current Light Horse Program

The respondents rated themselves as having "average" competence in the following skill areas: Orientation, Selection and Judging, Facilities, and Equipment. For the skill areas of Health and Foot Care, Nutrition, Reproduction, and Training Light Horses respondents perceived themselves to be "below average." Only 29.2 percent of the county C.E.S. 4-H Agents had completed college credit in light horse subject matter. While 30.8 percent of the respondents had not attended any special programs pertaining to light horse subject matter, a large number of respondents, 96.9 percent of the respondents had either attended inservice programs, Cooperative Extension Programs, or both. The majority of the respondents were horse owners and 41.5 percent of the respondents indicated that they had competed in light horse competitive events.

A comparison of the preservice training and competence of the county C.E.S. 4-H Agents in relation to the current light horse programs revealed that the current program requiring the highest time commitment

from the 4-H Agents is the non-animal project. The light horse project was ranked fifth by the respondents in relation to requirements on work time. A majority of the respondents, 67.7 percent, either participated in or conducted horse shows, whereas, 43.1 percent were involved with clinics. Only 12.3 percent of the respondents train a horse judging team.

Conclusions

Based upon the findings of this study, the writer concluded the following:

The county C.E.S. 4-H Agents who responded to the mailed questionnaire represented a variety of educational levels as well as number of years of experience. It was concluded that the county C.E.S. 4-H Agents in Oklahoma who conduct light horse programs can be characterized as possessing a Bachelor of Science degree and above and have achieved seven years or more experience as a county C.E.S. 4-H Agent.

It was further concluded that the county C.E.S. 4-H Agents have received little, if any, formal education relating to light horses, but have gained preservice experience by attending special programs.

As a result of the findings, it is concluded that the county C.E.S. 4-H Agents rely on inservice training and Cooperative Extension Programs as a source of information, however, clinics, workshops, and breed programs are also important sources of information.

It is further concluded that the county C.E.S. 4-H Agents who had obtained college credit in light horse courses place a high value on

Equine Nutrition, Equine Selection, and Horse Production.

The writer concluded, as a result of the findings, that the county C.E.S. 4-H Agents in Oklahoma were not highly skilled in any of the competency levels relating to the light horse.

Based upon the finding that 75.4 percent of the county C.E.S. 4-H Agents responding either own or have owned horses, the writer concluded that perhaps the level of competency presently achieved by the respondents was a direct result of "hands-on" experience as owners.

It is concluded that since 41.5 percent of the county C.E.S. 4-H Agents had competed in light horse competitive events that this experience may have contributed to their present competency level.

It was further concluded that the county C.E.S. 4-H Agents possessed average competence in the following areas: parts of the light horse, desirable conformation and disposition, uses of the light horse, breeds of the light horse, handling horses safely, transportation of the horse, color markings, evaluating height, and basic first aid.

A further conclusion made by the writer, as a result of the findings, is that the county C.E.S. 4-H Agents judged themselves to be below average concerning their competence in the following areas: deworming, judging, internal and external parasites, selection and care of tack, nutritional requirements, management of feeding horses, mating procedures, physical facilities and stable management, vaccinating, health maintenance and disease prevention, care of the mare and foal, fundamentals of foot care, breaking horses to lead, distinguishing between natural gaits, starting the young horse under saddle, history of the light horse, fertility and genetics of reproduction, branding, mouthing for age, care of the stallion, castration, foot problems,

advanced performance maneuvers, and floating teeth.

Based upon the finding that 67.7 percent of the county C.E.S. 4-H Agents are involved with horse shows and 43.1 percent of the Agents are involved with clinics, it was concluded that the county C.E.S. 4-H Agents in Oklahoma are involved in several activities that relate to light horses.

It was further concluded, that because nearly one third of the Agents participated in a variety of "other" activities, the participation in some light horse activities may have been delegated to project leaders.

Based upon the finding that the non-animal projects were ranked first and the horse programs were ranked fifth in requirements on the work time of the county C.E.S. 4-H Agents, the writer concluded that perhaps the less than above average competency of the Agents may be a restraint in conducting light horse projects or that the responsibility of the light horse projects is delegated to the project leaders.

It was further concluded based upon the findings from this study, the Cooper (1987) study, and the Parli (1984) study that the combined competency levels of the county C.E.S. 4-H Agents, county C.E.S. Agriculture Agents, and vocational agriculture teachers were found to be average or below in relation to light horse subject matter.

Recommendations

Based upon the conclusions of this study, the following recommendations were presented:

1. Based upon the conclusion that special programs appear to be popular and since little, if any, formal preservice education was required, the writer recommends that special programs be conducted in the form of clinics, workshops, breed programs, inservice programs, and that formal preservice educational courses be required as part of the field of specialization for county C.E.S. 4-H Agents.

2. Based upon the conclusion that the county C.E.S. 4-H Agents were below average in a majority of the competency areas relating to the light horse, it is recommended that specific programs be provided which should enhance their competency. The recommended specific programs should address the following light horse skill areas: health and foot care, nutrition, reproduction, and training light horses.

3. In order to imperically validate this study, it is recommended that this study be duplicated.

4. Based upon the conclusion that pre-service training is needed to enhance the competency levels of county C.E.S. 4-H Agents, it is further recommended that the importance of these competency levels to pre-service training be determined by means of additional research.

5. It is further recommended that a broad based light horse curriculum be implemented which would enhance the competencies of horse owners and breeders and that perhaps a study should be conducted to determine their competency levels and those findings be compared to the findings of this study.

BIBLIOGRAPHY

Blakley, James. Horses and Horse Sense. Reston, VA: Reston Publishing Company, Inc., 1981.

Borton, A., C. D. Potter, and J. W. Evans. "Survey of Horse Programs at Colleges and Universities." (A committee study, American Society of Animal Sciences, 1971.)

Campbell, John R. and John F. Lasley. The Science of Animals that Service Mankind. New York, NY: McGraw-Hill Book Company, 1975.

Cooper, Dee E. "Competency Levels of and Pre-Service Training Received by County Cooperative Extension Service Agriculture Agents in Oklahoma Relative to Light Horses." (Unpub. M.S. thesis, Oklahoma State University, 1987.)

Denhardt, Robert Moorman. The Horse of the Americas. Norman, OK: University of Oklahoma Press, 1947.

The Economic Impact of the United States Horse Industry. Technical Report Volume One. "Overview and Presentation of Horse Population Estimates." (A report for the American Horse Council, 1987.)

The Economic Impact of the United States Horse Industry. Technical Report Volume Two. "The Economics of the United States Horse Industry." (A report for the American Horse Council, 1987).

Ensminger, M. E. Horses and Horsemanship. Danville, IL: Interstate Printers and Publishers, Inc., 1977.

Evans, J. W. The Horse. San Francisco, CA: W. H. Freeman and Company, 1977.

Harper's Encyclopedia for Horseman. New York, NY: Harper and Row Publishers, 1973.

Lillibridge, Deborah and Lillibridge, Glen. "My Life as a Trainer's Apprentice." Horseman Magazine (April, 1976), pp. 48-72.

McElroy, Jack and Edward Brice. "Training for Occupations in the Horse Industry." Agricultural Education Magazine, Vol. 48, No. 5 (November, 1975), pp. 112-113.

Oklahoma Agriculture 2000. Stillwater, OK: Division of Agriculture, Oklahoma State University, 1982.

Oklahoma Equine Agriculture Symposium Proceedings. Ardmore, OK: Agriculture Division, Noble Fundation, 1984.

Parli, Gary E. "Competency Levels of and Pre-Service Training Received by Voctional Agriculture Teachers in the Central District of Oklahoma Relative to Light Horses." (Unpub. M.S. thesis, Oklahoma State University, 1984.)

Parmenter, Carol Louise Wright. "Equine Education Programs and Related Studies as Found in Colleges and Universities in the United States." (Unpub. M.S. thesis, California State University, Northridge, 1978.)

Rogers, Tex. "Students, Horses, Education-Opportunity." Horseman Magazine (April, 1976), pp. 76-81.

Rudolph, James Andy. "Selected Characteristics of Equine Education Programs at Colleges and Universities in the United States." (Unpub. Ed.D. dissertation, Oklahoma State University, 1979.)

Summerhays, R. S. Summerhays' Encyclopedia for Horsemen. London: Frederick, Warne, and Company Ltd., 1970.

Topliff, Don. Personal Interview. Stillwater, Oklahoma, June 20, 1989.

The World Book Dictionary. Chicago, IL: Field Enterprises Educational Corporation, 1981.

APPENDIXES

APPENDIX A

DATA COLLECTION INSTRUMENT

DIRECTIONS

Please indicate your response to the following questions by checking (X) the appropriate response for each question.

1. What is your highest level of education?

   (1) 1. ___ B.S. 2. ___ B.S. +15 3. ___ M.S.
   4. ___ M.S. +15 5. ___ Ed.D. 6. ___ Other

2. Indicate the approximate number of years which you have been a county 4-H agent.

   (2) _____

3. Indicate below the titles and number of hours of college credit completed in horse courses and the contribution of each course to current competencies possessed in horse related subject matter. Please rate the value on a scale of 1 to 5 with 1 being the lowest and 5 being the highest.

# Hours Credit	Name of Course	Value low 1 2 3 4 5 high
_____	(3) _____	_____
_____	(4) _____	_____

4. Indicate any special light horse related programs which you have either attended or participated in.

   (5) 1. ___ Have not attended any special programs
   (6) 2. ___ In-service training
   (7) 3. ___ Vo-Tech courses
   (8) 4. ___ Clinics
   (9) 5. ___ Workshops
   (10) 6. ___ Breed Programs
   (11) 7. ___ Cooperative Extension Programs
   (12) 8. ___ Other, Please specify _____

5. Rank order (1 through 6) the following program areas in terms of their requirements on your work time.

(13) 1. ___ Horse
(14) 2. ___ Beef
(15) 3. ___ Sheep
(16) 4. ___ Swine
(17) 5. ___ Other Animals
(18) 6. ___ Non-Animal Projects

6. As a 4-H Agent, what kinds of activities do you conduct or participate in?

(19) 1. ___ Horse Shows
(20) 2. ___ Clinics
(21) 3. ___ Horse Judging Team
(22) 4. ___ Horse Skills Manual Series
(23) 5. ___ Consultation with Horse Owners
(24) 6. ___ Horse Short Course
(25) 7. ___ Other, Please specify _____

7. Are you now or have you ever been a horse owner?

(26) 1. ___ Yes 2. ___ No

8. Do you now or have you ever competed in light horse related competitive events such as horse shows, rodeos, etc.?

(27) 1. ___ Yes 2. ___ No

Please indicate by checking (X) in the appropriate box your degree of competency for each category as it relates light horses. (These are not necessarily the skills which you may teach, but the skills or competencies you have acquired).

COMPETENCIES	POOR (1)	BELOW AVE (2)	AVERAGE (3)	ABOVE AVE (4)	OUTSTANDING (5)
A. ORIENTATION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXX	XXX	XXX	XXX	XXX
(28) History of the Light Horse					
(29) Breeds of the Light Horse					
(30) Uses of the Light Horse					
B. SELECTION and JUDGING XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXX	XXX	XXX	XXX	XXX
(31) Parts of the Light Horse					
(32) Desirable conformation and disposition					
(33) Color markings (Head and Leg)					
(34) Mouthing for age					
(35) Evaluating height					
(36) Distinguish between natural gaits					
(37) Judging					
C. HEALTH AND FOOT CARE XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXX	XXX	XXX	XXX	XXX
(38) Health maintenance and Disease prevention					
(39) Internal and External Parasites					
(40) Basic First Aid					
(41) Fundamentals of Foot Care (Trimming)					
(42) Foot Problems (Shoeing)					
(43) Vaccinating					
(44) Deworming					
(45) Branding					
(46) Castration					
(47) Floating Teeth					
D. NUTRITION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXX	XXX	XXX	XXX	XXX
(48) Management of Feeding Horses (Regulating for individual horses)					
(49) Nutritional Requirements					
E. REPRODUCTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXX	XXX	XXX	XXX	XXX
(50) Mating Procedure					
(51) Fertility and Genetics of Reproduction					
(52) Care of the Mare and Foal					
(53) Care of the Stallion					
F. FACILITIES and EQUIPMENT XXXXXXXXXXXXXXXXXXXXXXXXXX	XXX	XXX	XXX	XXX	XXX
(54) Physical Facilities and Stable Management					
(55) Selection and Care of Tack					
(56) Handling Horses Safely					
(57) Transportation of the Horse					
G. TRAINING LIGHT HORSES XXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXX	XXX	XXX	XXX	XXX
(58) Breaking Horses to Lead					
(59) Starting the Young Horse Under Saddle					
(60) Advanced Performance Maneuvers					

APPENDIX B

DATA COLLECTION INSTRUMENT

USED BY COOPER

Directions

Please indicate your response to the following questions by checking (X) the appropriate response for each question.

1. What is your highest level of education?

(1) 1. ____ B.S. 2. ____ B.S.+ 15 3. ____ M.S. 4. ____M.S.+ 15
5. ____ Ed. D. 6. ____ Other

2. Indicate the approximate number of years which you have been a county agriculture agent.

(2) 1. ____ 0 to 3 years 2. ____ 4 to 7 years 3. ____ 8 to 11 years
4. ____ 12 to 15 years 5. ____ 16 or more

3. Indicate the approximate number of hours of collegiate course work you have completed in light horse related subject matter.

(3) 1. ____ No collegiate hours credit 2. ____ 1 to 3 hours
3. ____ 4 to 6 hours 4. ____ 7 to 9 hours 5. ____ 10 or more hours

4. Indicate any special light horse related programs which you have either attended or participated in.

(4) 1. ____ Have not attended any special programs
(5) 1. ____ In-service training
(6) 1. ____ Vo-Tech courses
(7) 1. ____ Clinics
(8) 1. ____ Workshops
(9) 1. ____ Breed Programs
(10) 1. ____ Cooperative Extension Programs
(11) 1. ____ Other, Please specify _____

5. Indicate the number of times a week you use light horse related subject matter in your county.

(12) 1. ____ Do not use light horse related material 2. ____ 1 to 3 times
3. ____ 4 to 6 times 4. ____ 7 to 9 times 5. _____ 10 or more times

6. Do you presently train a horse judging team?

(13) 1. ____ Yes 2. ____ No

7. Are you now or have you ever been a horse owner?

(14) 1. ____Yes 2. ____ No

8. Do you now or have you ever competed in light horse related competitive events such as horse shows, rodeos, etc.?

(15) 1. ____ Yes 2. ____ No

Please indicate by checking (X) in the appropriate box your degree of competency for each category as it relates light horses. (These are not necessarily the skills which you may teach, but the skills or competencies you have acquired).

COMPETENCIES	POOR (1)	BELOW AVE (2)	AVERAGE (3)	ABOVE AVE (4)	OUTSTANDING (5)
A. ORIENTATION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXX	XXX	XXX	XXX	XXX
(28) History of the Light Horse					
(29) Breeds of the Light Horse					
(30) Uses of the Light Horse					
B. SELECTION and JUDGING XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXX	XXX	XXX	XXX	XXX
(31) Parts of the Light Horse					
(32) Desirable conformation and disposition					
(33) Color markings (Head and Leg)					
(34) Mouthing for age					
(35) Evaluating height					
(36) Distinguish between natural gaits					
(37) Judging					
C. HEALTH AND FOOT CARE XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXX	XXX	XXX	XXX	XXX
(38) Health maintenance and Disease prevention					
(39) Internal and External Parasites					
(40) Basic First Aid					
(41) Fundamentals of Foot Care (Trimming)					
(42) Foot Problems (Shoeing)					
(43) Vaccinating					
(44) Deworming					
(45) Branding					
(46) Castration					
(47) Floating Teeth					
D. NUTRITION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXX	XXX	XXX	XXX	XXX
(48) Management of Feeding Horses (Regulating for individual horses)					
(49) Nutritional Requirements					
E. REPRODUCTION XXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXX	XXX	XXX	XXX	XXX
(50) Mating Procedure					
(51) Fertility and Genetics of Reproduction					
(52) Care of the Mare and Foal					
(53) Care of the Stallion					
F. FACILITIES and EQUIPMENT XXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXX	XXX	XXX	XXX	XXX
(54) Physical Facilities and Stable Management					
(55) Selection and Care of Tack					
(56) Handling Horses Safely					
(57) Transportation of the Horse					
G. TRAINING LIGHT HORSES XXXXXXXXXXXXXXXXXXXXXXXXXXXXXX	XXX	XXX	XXX	XXX	XXX
(58) Breaking Horses to Lead					
(59) Starting the Young Horse Under Saddle					
(60) Advanced Performance Maneuvers					

APPENDIX C

DATA COLLECTION INSTRUMENT

USED BY PARLI

OKLAHOMA STATE UNIVERSITY • STILLWATER

Department of Agricultural Education
448 Agricultural Hall
624-5129

74078

March 16, 1984

Dear Vocational Agriculture Teacher:

Please take 10 minutes of your time to fill out the enclosed research instrument. Due to the nature of the study, it is important that the completed instrument be returned within one week.

This study is designed to evaluate the competencies you possess relative to light horse subject matter. Also, to determine the pre-service experiences you have gained relative to light horses.

Your response will be anonymous, and should provide sufficient data to the Agriculture Education and Animal Science Departments at Oklahoma State University to develop light horse in-service training programs for Vocational Agriculture teachers.

Thank you in advance for your cooperation.

Sincerely,

Gary Parli

Gary Parli

Directions

Please indicate your response to the following questions by checking (X) the appropriate response for each question.

1. What is your highest level of education?

(1) 1. ____ B.S. 2. ____ B.S.+ 15 3. ____ M.S. 4. ____ M.S.+ 15
5. ____ Ed. D. 6. ____ Other

2. Indicate the approximate number of years which you have taught vocational agriculture.

(2) 1. ____ 0 to 3 years 2. ____ 4 to 7 years 3. ____ 8 to 11 years
4. ____ 12 to 15 years 5. ____ 16 or more

3. Indicate the approximate number of hours of collegiate course work you have completed in light horse related subject matter.

(3) 1. ____ No collegiate hours credit 2. ____ 1 to 3 hours
3. ____ 4 to 6 hours 4. ____ 7 to 9 hours 5. ____ 10 or more hours credit

4. Indicate any special light horse related programs which you have either attended or participated in.

(4) 1. ____ Have not attended any special programs
(5) 1. ____ In-service training
(6) 1. ____ Vo-Tech courses
(7) 1. ____ Clinics
(8) 1. ____ Workshops
(9) 1. ____ Breed Programs
(10) 1. ____ Cooperative Extension Programs
(11) 1. ____ Other, Please specify _____

5. Indicate the amount of time you devote to teaching light horse related subject matter to your vocational agriculture students.

(12) 1. ____ Do not teach light horse related material
2. ____ Less than one week 3. ____ one week 4. ____ two weeks
5. ____ three weeks 6. ____ four weeks or more

6. Do you presently train a horse judging team?

(13) 1. ____ Yes 2. ____ No

7. Are you now or have you ever been a horse owner?

(14) 1. ____ Yes 2. ____ No

8. Do you now or have you ever competed in light horse related competitive events such as horse shows, rodeos, etc.?

(15) 1. ____ Yes 2. ____ No

Please indicate by checking (X) in the appropriate box your degree of competency for each category as it relates to light horses. (These are not necessarily the skills which you may teach-but the skills or competencies you have acquired).

COMPETENCIES	POOR (1)	BELOW AVE. (2)	AVEPAGE (3)	ABOVE AVE. (4)	OUTSTANDING (5)
A. ORIENTATION					
(16) History of the Light Horse					
(17) Breeds of the Light Horse					
(18) Uses of the Light Horse					
B. SELECTION and JUDGING					
(19) Parts of the Light Horse					
(20) Desirable conformation and disposition					
(21) Color markings (Head and Leg)					
(22) Routning for age					
(23) Evaluating heighth					
(24) Distinguish betwee natural gaits					
(25) Judging					
C. HEALTH and FOOT CARE					
(26) Health maintenance and Disease prevention					
(27) Internal and External Parasites					
(28) Basic First Aid					
(29) Fundamentals of Foot Care (Trimming)					
(30) Foot Problems (Shoeing)					
(31) Vaccinating					
(32) Deworming					
(33) Branding					
(34) Castration					
(35) Floating Teeth					
D. NUTRITION					
(36) Management of Feeding Horses (Regulating for individual horses)					
(37) Nutritional Requirements					
E. REPRODUCTION					
(38) Mating Procedure					
(39) Fertility and Genetics of Reproduction					
(40) Care of the Mare and Foal					
(41) Care of the Stallion					
F. FACILITIES and EQUIPMENT					
(42) Physical Facilities and Stable Management					
(43) Selection and Care of Tack					
(44) Handling Horses Safely					
(45) Transportation of the Horse					
G. TRAINING LIGHT HORSES					
(46) Breaking Horses to Lead					
(47) Starting The Young Horse Under Saddle					
(48) Advanced Performance Maneuvers					

APPENDIX D

COVER LETTER

September 1, 1989

Dear Cooperative Extension Service 4-H Agent:

Due to the economic importance of the horse industry to the Oklahoma economy, there is a need for well-trained professionals to educate the horse enthusiasts relative to light horse subject matter. This study is designed to evaluate the competencies you possess relative to light horse subject matter and to determine the pre-service training relative to light horse subject matter possessed by Cooperative Extension Service 4-H Agents in Oklahoma. In addition, this study will determine the effects of pre-service training on light horse programs in 4-H. By sharing knowledge of the horse industry, you will also be helping me to complete my degree requirements for a Master of Science degree in Agricultural Education at Oklahoma State University.

Your response will be anonymous, however, each questionnaire has been coded to enable the investigator to identify the non-respondents in order to send a follow-up letter. The coding procedure is for follow-up responses only and after that time all code sheets will be destroyed. By completing the enclosed questionnaire, the responses should provide sufficient data to the Agricultural Education and Animal Science Departments at Oklahoma State University to develop light horse in-service training programs for county Cooperative Extension Service 4-H Agents.

Due to the nature of the study, it is important that the completed instrument be returned within one week. Thank you very much for your cooperation.

Sincerely,

Robin J. Edwards

Robin J. Edwards

Enclosures

APPENDIX E

FOLLOW-UP LETTER

September 19, 1989

Dear Cooperative Extension Service 4-H Agent:

We are attempting to conclude our research which is designed to evaluate the competencies you possess relative to light horse subject matter and to determine the pre-service training relative to light horse subject matter possessed by Cooperative Extension Service 4-H Agents in Oklahoma. We would really like to have your input because we would like to determine the effects of pre-service training on light horse programs in 4-H. Even though we forwarded to you (approximately two weeks ago) a request for your assistance, apparently it has become lost or misplaced.

By sharing knowledge of the horse industry, you will also be helping me to complete my degree requirements for a Master of Science degree in Agricultural Education at Oklahoma State University.

Your response will remain confidential and will be included as part of the total findings of this research. By completing the enclosed questionnaire, the responses should provide sufficient data to the Agricultural Education and Animal Science Departments at Oklahoma State University to develop light horse in-service training programs for county Cooperative Extension Service 4-H Agents.

Due to the nature of the study, it is important that the completed instrument be returned within one week. Thank you very much for your cooperation.

Sincerely,

Robin J Edwards

Robin J. Edwards

Enclosures

VITA

Robin Janette Edwards

Candidate for the Degree of

Master of Science

Thesis: COMPETENCIES AND PRE-SERVICE TRAINING IN LIGHT HORSE SUBJECT MATTER RECEIVED BY OKLAHOMA COOPERATIVE EXTENSION SERVICE 4-H AGENTS AND THEIR RELATIONSHIP TO EDUCATIONAL PROGRAMS

Major Field: Agricultural Education

Biographical:

Personal Data: Born in Harrison, Arkansas, October 3, 1963, the daughter of Charles and Mildred Edwards.

Education: Graduated from Harrison High School, Harrison, Arkansas, May, 1982; received the Bachelor of Science degree from Oklahoma State University, Stillwater, Oklahoma, December, 1986, with a major in Animal Science; completed the requirements for the Master of Science degree at Oklahoma State University, Stillwater, Oklahoma, December, 1989.