Mimeographed Circular M-247 July 28, 1953

5th ANNUAL FIELD DAY

KIAMICHI

FIELD STATION

At
Idabel, Oklahoma

Department of Horticulture

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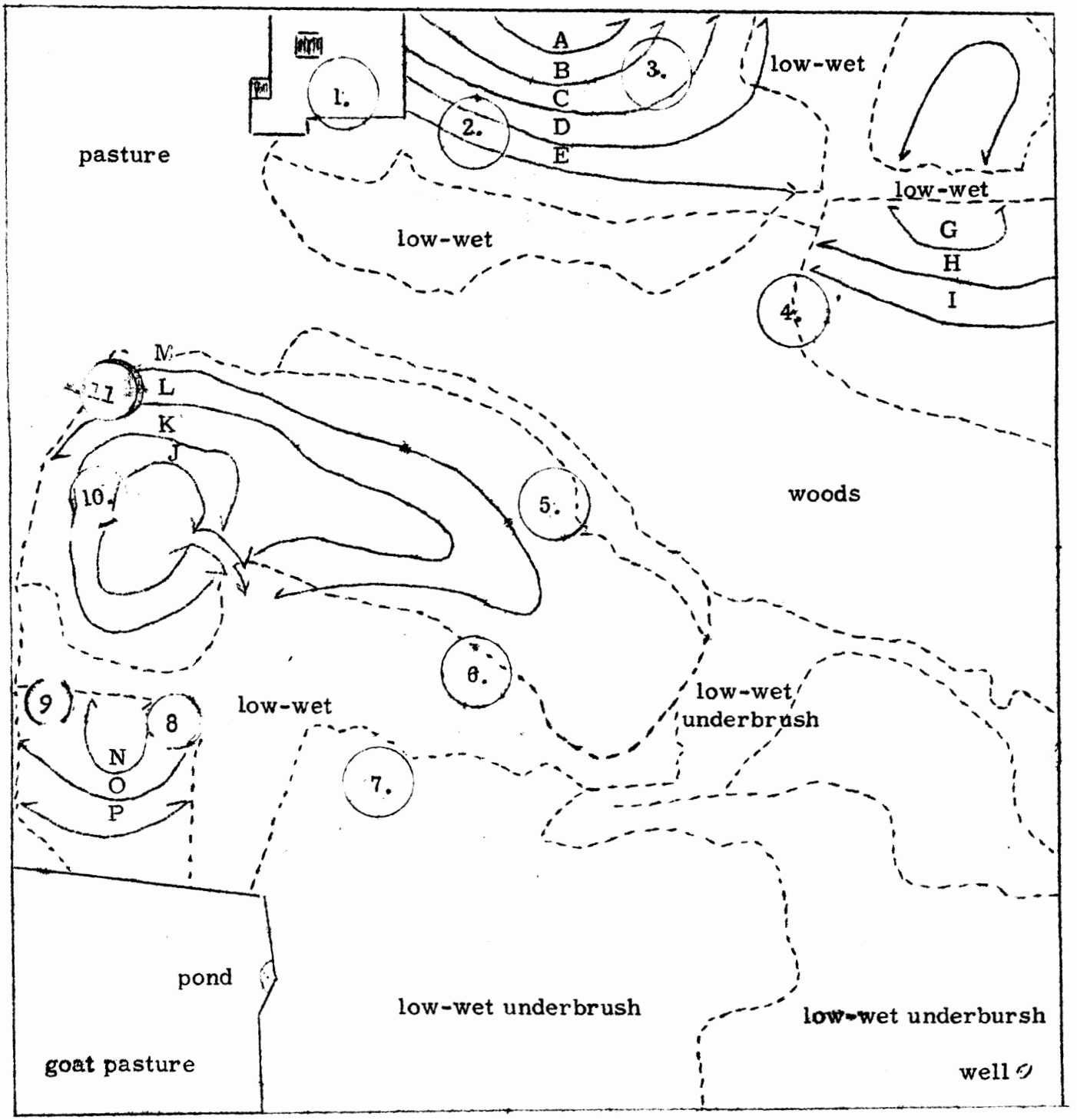
OKLAHOMA AGRICULTURAL EXPERIMENT STATION
Oklahoma A. & M. College, Stillwater

A. E. Darlow, Director
Louis E. Hawkins, Vice Director

KIAMICHI STATION - 1953
Scale (Approx.) 1" - 330'
Photo No. BQJ-4-86
Acres: 160

CONTOUR LINES INDICATE TERRACES



STOP 1: Coldframes, hotbeds, and storage house.

Successful production of such crops as tomatoes and cabbage is usually related to the type and conditions of the plants available for setting in the field. Locally-grown plants are superior to those brought in from a considerable distance because of the difference in time between taking the plants out of the beds and setting them in the field. It is also possible to retain most of the roots and even transfer a block of soil containing the roots along with the home-grown plants, thus avoiding a check in growth when transplanted.

Adequate space in the bed is essential to growing a sturdy type of plant. Tomato plants started in hotbeds and transplanted to coldframes when 3 to 4 inches tall, spaced 4 by 4 inches, will make ideal plants. The hotbeds on the Station were installed to produce plants for use on this and other experiment stations in the state. The beds are heated by a hot water system with wood from the farm being utilized for fuel. Glass sash are used for cover which admits adequate light and considerable heat is also derived from the sunlight.

Gabbage and onion plants for spring setting are seeded in October and carried through the winter without artificial heat. Tomato seed is planted February 1 to 15 in the hotbed and the plants transplanted to coldframes the latter part of March.

The harvest of ripe tomatoes in early June is made possible by growing good plants for transplanting.

The cost of constructing a permanent hotbed is low in relation to value to be received from its use. A bed 18 feet long would require approximately 1 1/2 cubic yards of concrete, 48 linear feet of 2 by 4 inch lumber, 66 linear feet of 1 by 4 inch lumber, 6 standard (3 by 6 feet) glazed hotbed sash and a few bolts and nails. A bed this size could be heated most economically by means of flues. A firebox made from 55-gallon oil drums and flues of 4- or 5-inch pipe or glazed sewer title is satisfactory. The entire cost of materials for such a bed would not exceed $100 at present prices and will last for many years. A sufficient number of tomato plants could be started in a 6 by 18 foot hotbed to set 3 to 4 acres, if the plants are transplanted to coldframes when 3 to 4 inches tall.

The sweet potato storage house, with 500-bushel capacity, was constructed in 1949 at a cost of about $650 for material. Cellar under the house cost $620.

The basement to the storage house is used for summer storage of Irish potatoes and onions. Part of the crop is sold at harvest and part stored and sold at later dates as the market seems best. Treatment to prevent sprout-

ing in storage are being tested. Bar-Sprout as a dust treatment to harvested tubers, and Maleic Hydrazide sprayed on the plants two weeks previous to harvest are being compared with untreated lots. A record of shrinkage is kept in comparison with untreated potatoes. Shrinkage of onions in storage is also recorded. Shrinkage has been surprisingly low on stored potatoes, until late fall when they begin sprouting and go down rapidly if untreated.

Storage Test, 1952

Comparable lots of potatoes from Maleic Hydrazide sprayed plots and untreated plots were placed in the cellar storage June 20. An additional lot was treated with Bar-Sprout after the potatoes had cured. Treatment with Bar-Sprout held the tubers in fair condition into January. Maleic Hydrazide reduced sprout development but the potatoes were considered unusable by December 1. These tests are being repeated this year.

Storage tests with onions held in a cellar showed Yellow Sweet Spanish to be the best of the three varieties. Treatment with Maleic Hydrazide previous to harvest reduced the keeping quality of Yellow Sweet Spanish but was beneficial for the other two varieties. These tests are being repeated this year.

STOP 2: Blackeye Peas

Plantings in 1952 were made at fifteen day intervals from May 15 to July 15 to check on the effect of planting date on type of plant growth made and production of peas. Excessive vine growth with relatively low production of peas resulted from the first three plantings. The two late plantings (July 1 and 15) produced good crops of peas and the plants did not vine out so extensively.

STOP 3: Lima beans and Fall vegetables

Lima beans are one of the promising crops which have possibilities for canning and freezing.

The plants generally set on a heavy fall crop and are tolerant of summer weather. Varieties and selections included in the test are screened as to nematode resistance and certain leaf diseases. The Bixby variety is a small seeded type developed at the Oklahoma Experiment Stations. This variety yields very well and is well suited to canning.

STOP 4: Sweet Potato Breeding and Variety Studies

The breeding program with sweet potatoes has been in progress for some time at the Oklahoma Experiment Station. Selected parent varieties are

cross pollinated to secure seedling progeny possessing certain characteristics of both parents. Increased yields of marketable roots, better nutritional value and disease resistance are major objectives in this work.

The major phases of the breeding program are in progress at the Kiamichi Station:

(1) Thousands of first-year individuals started from true seeds are grown out and the best hills are selected at harvest time.

(2) Many second-year seedlings are grown in observation and elimination tests in single plots.

(3) Several advanced breeding lines are grown in replicated plots for careful testing for yield and quality.

(4) Samples for chemical (vitamin) analysis are obtained from roots of various varieties and breeding lines.

(5) Variety trials including promising breeding lines are also conducted.

The Jersey variety and breeding line trial is carried out at this station and cooperatively with investigators in six other states.

In this report some of the results of this sweet potato program are given to illustrate the progress made in breeding for higher yields, better nutritional value and disease resistance. (The sweet potato varieties and seedlings are tested for disease resistance at the main station at Stillwater in cooperation with the Botany and Plant Pathology Department.)

As indicated by the yield data in Table I, the new varieties, Redgold (Okla. 26), Goldrush, and Allgold, are high yielding moist-flesh sorts. In the Jersey group, Oklahoma 46 was most productive in this 1952 trial at this Station. It also ranked first in yield averages for two years (1951 and 1952) in the Jersey trials in the six cooperating states.

Table I: Breeding Sweet Potatoes for High Yields of Marketable Potatoes. Yields of No. 1 for Moist Flesh Sweet Potato Varieties and Seedlings and for Jersey Varieties. Idabel-1952

Variety (Moist Flesh)	Bu/Acre No. 1 Roots	Variety (Jersey*)	Bu/Acre No. 1 Roots
Redgold	193	Oklahoma 46	167
Goldrush	149	Orange Little Stem	157
Allgold	122	Vineland Bush	132
Unit No. 1 (P. R.)	53	Rols	125
Oklahoma Breeding Lines:		Vates Golden	88
2 x 4 -6	205	Big Stem Jersey	81
31 x 3 -1	127	Yellow Jersey	75
Oklahoma 35	118	Virginian	49
30 x 46 -10	106	Jersey Orange	47
31 x 36 -3	88		
Oklahoma 38	79		

Varieties planted in replicated plots at Kiamichi Field Station 1952.

Dry Weather in 1952 resulted in low yields in sweet potatoes.

* Rols, Orange Little Stem and Jersey Orange are improved strains Yellow Jersey. Vates Golden and Virginian are Jersey derivatives but are not typical Jersey varieties. Oklahoma 46 is recommended as a high carotene Jersey type and for planting on nematode infested land.

Consumers of vegetables are becoming vitamin conscious. Sweet potatoes with high contents of the vitamins A and C preferred. Table II illustrates the progress that has been made in breeding for improved nutritional value in sweet potatoes. Allgold and Redgold from the Oklahoma Experiment Station and Goldrush originated at the Louisiana Experiment Station show much improvement in vitamin content over the Porto Rico variety. Oklahoma 46 also is a high vitamin Jersey type. The chemical analyses of other breeding line sweet potatoes promise additional improvements in the nutritional value.

Table II: Breeding Sweet Potatoes for Better Nutritional Value Value: Vitamin A and Vitamin C Contents of No. 1 Roots for a Selected Group of Oklahoma Breeding Lines in Comparison with Named Varieties (Roots Grown at Idabel in 1952)

	% Total Solids	Mg. / 100 gm. Carotene (Vitamin A)	Dry Wt. Ascorbic Acid (Vitamin C)
Varieties:			
Allgold*	26	44	95
Goldrush	24	42	108
Porto Rico (Unit No. 1)	29	14	56
Yellow Jersey	32	0.7	67
Oklahoma 46*	28	27	85
Redgold* (Okla. 26)	23	30	75
High Vitamin Oklahoma Breeding Lines:			
31 x 3 - 1	26	56	80
P 91	28	54	151
15 x 43 - 1	27	52	70
47 x 4 - 4	25	51	128
30 x 46 - 10	26	51	75
56 x 40 - 1	26	48	145
62 x 4 - 1	28	48	138

Analyses provided by Dr. Ruth Reder of the Agricultural Chemistry Dept.

* Originated at the Oklahoma Experiment Station

Disease resistance is a most important attribute in a sweet potato variety. There are a number of diseases that effect this crop. These diseases reduce yields, destroy the market value of the product and also the seed value of the roots. The old standard varieties are susceptible to most sweet potato diseases. Resistant progeny from these susceptible varieties and resistant importations from other lands serve as resistant parents in breeding for disease resistance. Disease resistance appears in varying degrees in seedling individuals and the terms, resistant, slightly susceptible, tolerant, susceptible, etc., are used to distinguish the type of resistance expressed by a particular seedling. Root knot nematode and stem rot are serious problems in the Oklahoma sweet potato crop.

Considerable time and effort has been expended in breeding sweet potatoes for disease resistance and varieties resistant or tolerant to certain diseases have been introduced. However, at present none of these varieties combines resistance to both root knot nematode and wilt or stem rot (see Table III). Allgold, Goldrush, and Redgold are resistant to stem rot but susceptible to nematodes. Oklahoma 46 and some other Jersey varieties are resistant to nematodes but susceptible to stem rot. The same situation is found in most of the advanced breeding lines. However, it should be noted that lines, Oklahoma 50 and 47 x 4-4 show resistance to both nematodes and stem rot.

Table III: Breeding Sweet Potatoes for Disease Resistance: Tentative Rating for Sweet Potato Varieties and Seedlings for Resistance to Root Knot Nematode and to Wilt or Stem Rot.*

Named Varieties	Degree of Resistance to Nematodes	Stem Rot	Okla. Bred. Lines	Degree of Resistanc to Nematodes	Stem R
Unit No. 1 (P.R.)	I	S	15x42-1	S	R
Cleitt Bunch (P.R.)	I	S	31x3-1	S	R-T
Nancy Gold	S	S-I	62x4-1	S	R
Heartogold	R	S	Okla. 25	S	R
Allgold	S	T-R			
Redgold	S	T-R	30x43-10	R	S
Goldrush	S-I	R	30x46-10	R	S
Yellow Jersey	I-R	S	31x36-3	R	S
Big Stem Jersey	R	S	Okla. 38	R	S
Okla. 46	R	S			
Vates Golden	S	S	47x4-4	R	R
Virginia	S	S	Okla. 50	R	T-R

S - Susceptible; I - Intermediate (Tolerant); T- Tolerant; R - Resistant

The varieties breeding lines and seedlings are checked for disease resistance in field and greenhouse tests:

A. Stem Rot resistance test: Plants are inoculated with a mixture of several (usually 5) of the most virulant cultures of the Stemrot fungus and planted in the field or greenhouse. Resistance indexes are based on number of plants killed by the disease and the extent of the injury to those surviving.

B. Nematode resistance test: Plants are set in field plots heavily infested with nematodes and the varieties and breeding lines indexed for resistance at harvest time on the basis of injury to roots and potatoes and the presence of nematodes in the potatoes. Nematode counts are obtained by examining thin slices of the potato.

All disease work conducted in cooperation with Dr. F. B. Struble and Lou Morrison of the plant pathology department. A resent report from the U.S.D.A. described newly developed technics for testing sweet potato varieties for resistance to black rot. In this preliminary report Allgold and Oklahoma 38 were reported to be highly resistant to this disease. Unit No. 1 Porto Rico, Goldrush, and Oklahoma 46 were reported susceptible while the Jersey varieties were reported as very susceptible.

STOP 5: ~~Strawberries~~

During the past five years, tests have been undertaken to determine more suitable varieties, fertilizer practices, plant spacing, mulching and crop rotation methods.

The report this year includes some of the findings of this work.

Varieties:

For several years Blakemore has been recommended as the best variety for Oklahoma. It remains the best. During the summer of 1952, Blakemore withstood the drought and averaged from 13 to 15 plants per lineal foot of row. Tennessean 965 averaged 12 to 13, Tennessee Shipper 7 to 9, Tennessee Beauty 6 to 10, Armore 5 and Missionary 13 to 16.

In spite of the good stand of Missionary plants, the production of fruit was considerably less than Blakemore. Blakemore produces as much or more fruit per plant than any other variety and in most cases, has more plants per acre. Fifteen, May fruiting varieties and seven everbearing varieties are included in the variety test planting. Blakemore, Bellmar, Robinson, Empire, and Tennessee Shipper all yielded well in 1953. Bellmar is suggested for limited trial planting. The 1953 spring yield of everbearing varieties was about one tenth that of the May fruiting varieties.

Tennessee Beauty is recommended as a second variety to be planted with Blakemore. It has never yielded as well as Blakemore but does extend the normal picking season by ten days to two weeks.

Fertilizers:

Marketable Fruit Yield of Blakemore Strawberries From Various Fertilizer Plots - 1952

Treatment	Total Marketable Yield in Pounds
100 pounds Muriate of Potash sidedressed	35.75
100 pounds Muriate of Potash broadcast	33.25
200 pounds 5-10-5 fertilizer broadcast	36.37
300 pounds 5-10-20 fertilizer broadcast	33.90
No fertilizer	24.35

This experiment is being continued through the 1953 season.

The addition of potash and/or a 5-10-5 fertilizer at Kiamichi has increased crown size and production.

Plant Spacing:

During 1950 and 1951 Blakemore strawberry plants were thinned to various spaced distances. The results are summarized in the following table:

Effect of Plant Spacing on Yield in Pounds of Blakemore Strawberries - 1950 and 1951

Plant Spacing	Salable Fruit		Cull Fruit	
	1950	1951	1950	1951
Plants 4" apart	25.53	37.78	23.23	18.16
Plants 6" apart	23.51	33.95	19.63	16.84
Plants 8" apart	18.42	31.02	15.26	17.12
Matted Row	25.75	34.30	26.94	17.32

The data show some benefit from spacing of four inches but do not increase yields to the extent to justify this as an added practice.

Time of fruit maturity was also studied in connection with plant spacing. The four and six inch spacing did produce proportionately more fruit prior to May 1 but would not justify the added expense of the practice.

Mulching:

Pine needles, sawdust and cotton burrs have been used both as winter and summer mulches. These materials have greatly improved the growing conditions for berries, especially during periods of dry weather. Soil moisture and soil temperature have remained more favorable for plant growth.

Pine needles and cotton burrs may be used as a winter mulch to cover the plants and provide protection from low temperatures.

STOP 6: Watermelons

The 1952 growing season was relatively dry and in the absence of diseases such as anthracnose very high yields resulted. The planting of 1.5 acres yielded about 1300 melons, totaling almost 21 tons. The average weight per melon for the entire harvest season (July 26 to Sept. 9) was 32 pounds, although many melons weighing over 40 pounds were harvested. The tests included the Black Diamond and Congo varieties along with the F_1 hybrid of the cross Black Diamond [illegible]

Fruits of the F_1 hybrid (Black Diamond x Congo) appeared to be of good quality (high sugar) with the green skin and dark seeds of the Black Diamond parent. They are of blocky shape but longer than those of Black Diamond. During the first half of the harvest season, the fruits were about equal in size to those of Black Diamond (40 pounds) and in the average for the entire season were about three pounds larger. This hybrid melon is of interest as an anthracnose resistant variety, combining the table quality of the Congo parent with the green rind and black seed of the Black Diamond.

STOP 7: Pecan Grafting on Hickory, Goats and brush clearance, and chemical treatment of brush

Pecan Grafting:

A number of Hickory trees were grafted to several different varieties of pecans. The first grafting began in 1948 and each year additional grafts have been made. The purpose of this test is to determine the adaptability of the pecans on hickory root stock. Elsewhere in the state, it has been found that the pecan portion of the tree usually out-grows the hickory and that nuts are smaller than those propagated on pecan stock. Otherwise, the system is quite successful. One Dooley tree grafted in 1948 produced a few pecans in 1952.

Hayes and Patrick pecan varieties (winners of the Northeastern Oklahoma Pecan Growers' Contest) were grafted in the spring of 1953.

Chemical Brush Treatment:

One gallon of 2, 4, 5-T to 20 gallons of kerosene was sprayed on basal portion of brush and trees up to 6 inches in diameter February, 1952. Results -- a 75 percent kill of brush and a 50 percent kill of larger trees. Sprouts small enough for goats to reach were not treated as the goats can take care of them. Chemical treatments previous seasons are beginning to sprout from the roots.

Goats and Brush Clearence:

As will be seen, the goats are doing an excellent job of controlling brush and herbage which they can reach from the ground. In order to clear the area completely of underbrush, it will be necessary to cut the higher brush and trees so that the goats will find it possible to eat and kill the sprouts which develop from the roots. It now appears that in a period of three to five years, goats will economically clear brush areas. The expense attached to clearing with goats is fence contruction, purchase of animals and feeding some hay during the winter season. Sale of young goats repays this expense.

STOP 8: Figs

Time of Planting:

Magnolia - 1948

Ramsey, Hughes, Turkey - 1950

Winter freezes for the third straight season has killed all fig tops. The new growth in 1951 produced an excellent crop but in 1952 the crop was very light.

Variety	No. Trees	Aver. Yield (Pounds Per Tree) 1951	1952
Magnolia	46	9.9	1.8
Ramsey (Hughes)	10	7.0	1.0
Ramsey	6	2.6	.0
Turkey	2	2.0	.1
Hughes	6	1.9	.0

STOP 9: Thornless Youngberry

Cane length and cane number per plant were determined the spring of 1952. The average length was 7.2 feet and the number of canes per plant was 14.6. The 1952 yield was 12 1/3 crates from 413 plants. The 1953 cane length averaged 4.9 feet with 11.1 canes per plant. Late spring frosts together with low plant vigor resulted in a very low yield (18 quarts).

STOP 10: Orchard

Objective: Varietal adaptability, cultural methods, disease and insect control cover crop.

Time of Planting: Spring of 1948

Age of Trees at Transplanting: One year

Spacing in Orchard: Apple, 40 feet; peaches and plums, 24 feet. Only early-maturing varieties of apples are included in this planting. The orchard trees are pruned to the modified leader system.

Soil Management System: Clean cultivation throughout the summer followed by seeding to a winter legume, preferably hairy vetch, in August or early September. The vetch is disced into the soil the following spring after it has made sufficient growth to contribute considerable organic material. Superphosphate in quanity indicated by soil test is drilled with the vetch at the time of planting. The rate of seeding is

about 20 pounds per arce. Previous to planting the first cover crop, the lime requirement of the soil was made up by an application of limestone. The amount required was determined by a soil test.

Fireblight has been a serious problem on apple trees during the past season. Rye will be substituted for vetch in the cover crop program to avoid supplying additional nitrogen. Excessive stimulation and over rapid growth favor the disease.

The spray calender as recommended by the College is being followed.

As new varieties are available, the orchard planting will be expanded.

Five peach trees of each variety, Okla. 59-2-22, Erly-Red-Fre, Raritan Rose, and Bell of Georgia were added to the planting in Spring, 1953.

Varieties:

Apples:		Average Yield, 1951 Pounds Per Tree	Average Yield, 1952 Pounds Per Tree
Yellow Transparent	30 trees	11.3	37.2
Lodi	110 trees	10.0	31.2
Holland	15 trees	2.0	20.4
Summer Champion	15 trees	1.4	14.3

Peaches:		Ave. Yield, 1950 (Pounds Per Tree)	Ave. Yield (1951)	Ave. Yield (1952)	3-Year Average
Redhaven	10 trees	41.1	2.2	237.2	93.5
Golden Jubilee	10 trees	18.9	5.3	171.2	65.1
Newday	10 trees	32.2	---	136.2	56.1
Early Elberta	10 trees	15.8	1.9	111.0	42.9
Redskin	10 trees	92.1	7.2	194.2	97.8
J. H. Hale	10 trees	15.6	---	40.3	18.6
Elberta	100 trees	44.7	---	121.0	55.2
Fairhaven	10 trees	28.9	---	114.8	47.9

The yield of peaches from this orchard has been very gratifying. Two crops have been produced during the past three years. These trees began to bear during the third summer. In 1951 the crop was practically lost because the fruit buds were killed by the low temperature during the winter of 1950-51. Heavy frost damage in March 1952 reduced the 1952 crop. The Redskin, a new variety of Elberta-type

peach, produced nearly twice as much fruit as the Elberta. Redhaven, an early high quality fruit, was the most productive variety in 1952. This variety tends to over load and should be thinned to attain good size. The 1953 yield for Newday has been very good in spite of dry weather.

Plums: Bruce 10 trees

Bruce is a large, attractive, red plum that has met a ready sale. In 1952, they sold at 75 cents per gallon for the first-grade and 50 cents per gallon for the second-grade fruit. The 10 trees produced an average of 34.3 pounds per tree in 1951 and 180.5 pounds per tree in 1952.

Nematode-Resistant Peaches: In the spring of 1951, 10 Elberta and 10 J. H. Hale trees, budded on a nematode-resistant root stock, were set in an area infested with nematodes to test resistance to root knot. Five Redskin peaches grown on resistant stock were planted in the spring of 1952.

Nematode Control: In 1951 part of the same nematode infested field was planted to Crotalaria, a soil-building legume which may be favorable to the development of the nematode, in an effort to find ways of combatting it. Crotalaria follows Irish potatoes on this same plot this season. Chemical means of destroying the nematode are expensive for field use. This is an attempt to find a cheaper method. Spinach planted in the fall of 1951 after Crotalaria showed no noticeable root knot as compared to very noticeable infestation on the area not preceded by Crotalaria.

STOP 11: Vineyard and other small fruits:

Objective: Variety test and demonstration of production methods.

Bunch Grapes:

Time of Planting: Spring, 1948, except Brocton in 1949. The vines were set on contour in 10-foot rows and spaced 12 feet apart in the row. A two wire kniffin trellis was constructed with wires spaced at 30 and 54 inches from the ground.

Pruning: Vines were pruned during the month of January. A healthy one-year old cane was selected to run each way from the trunk along the wire. The canes were shortened to approximately 15 buds each in length and tied to the wire. All sulphur wood was removed.

Varieties:			Average Yield Per Vine 1952
Early	Seneca	White	.6
Mid-season	Ripley	White	21.7
Mid-season	Brocton	White	6.0
Mid-season	Niagara	White	13.5
Late	Catawba	Red	11.1

New Planting: Five vines of each, Okla. S-129, Okla. 17-347 and Okla. 17-98 were planted in the spring of 1953.

Muscadines:

Varieties:

Black:	Creek, Dulcet, Hunt, Thomas
White:	Willard, Wallace
Bronze:	Scuppernong, Yugo

Time of Planting: Spring, 1948. Rows 12 feet wide, vines spaced 16 feet in the row. Trellis wires are 2 and 5 feet above the ground.

Muscadine tops were killed by a servere freeze in the winter of 1950-51. New growth during seasons of 1951 and 1952 have about restored the tops. A light crop of fruit was harvested from most varieties in 1952. Dulcet, Scuppernong and Willard were the most productive.

Since the hard freeze had killed many of the native muscadine in McCurtain County, a survey was made to collect some that had escaped. These were transplanted to the varieties test plot for observation and breeding work.

Blackberries and Raspberries:

Objective: Variety adaptability and cultural methods.

Time of Planting: Spring, 1948, except dewberries and huckleberries which were planted Spring, 1949.

Varieties:	Lawton	Dewblack	Nanticoke
Number of plants	117	155	9
1952 Yield in quarts	180	99	23
1953 Yield in quarts	26 1/2	20	17

Huckleberries:

Some native huckleberry plants, especially selected for size and quality of fruit, were secured from the wild and transplanted into plots in 1952. Soil reaction adjustment has been made by applications of sulfur. The dry summer of 1952 reduced plant growth on newly planted lots.

Sweet Corn Fertilizer Test, 1952:

Five fertilizer treatments were applied in comparison with untreated check plots. Lack of rainfall limited production, however, all fertilizer treatments resulted in a 70% or greater increase in yield over the check plots. Highest production was secured from the application of 250# per acre 5-10-5 in bands along the row at planting and then sidedressing with 200# per acre of 16-20-0 when the plants were about 12 inches high.

Tomato Varieties, 1952:

Nine hybrids and three standard varieties were planted in replicated plots for performance records. Clinton and Fordhook hybrids were the most productive. Sioux and Stokesdale, standard varieties, were next in order of yield.

Onions:

Production secured for Yellow Sweet Spanish, White Sweet Spanish and Crystal Wax varieties was nearly the same in 1952.

Fall Crops;

Observational plots of from 50 to 100 plants each of several varieties of cabbage, cauliflower, broccoli, Chinese cabbage and head lettuce have been made each year since 1948.

The fall seasons of 1948, 1949, and 1950 were quite favorable and as as result, some excellent quality crops were produced. The 1951 and 1952 seasons were not too favorable and were terminated by early freezes with the result that few of the crops were harvested.

Plans are under way to make the first seedings in early August for this years fall crops. If the season permits, you should be able to see some quality vegetables during late October and November.

You always have an invitation to stop by and see what is going on.

The success of this station and these field days is the result of the effort and assistance of many people from numerous organizations. We wish to especially recognize:

Extension Division, A. & M. College
Soil Conservation Service
Veterans' Agricultural Training Program
Farm Home Administration
Production Marketing Administration
Idabel Chamber of Commerce