

The following achievement awards will be presented:

Achievement.....	J. Harrison Powers
Boy's Agriculture.....	Walter B. Kilby Francis Updike Lyle Updike
Leadership	Walter B. Kilby
Dairy	Joe Cloud
Entomology	David Igns Richard Burke Tim Kilby
Forestry	J. Harrison Powers
Swine	Carl Clark Glabert Smeot

"Cokes" and home-made cookies will be served by Mrs.
John Updike and Jean Lillard.

Community Project :

Four club members with the assistance of the Assistant Agent , dug up and distributed 100 Dogwood trees. This project was carried out in cooperation with the town of Washington's Spring " Clean Up Campaign " Advanced publication was given and the 4-H'ers received many favorable compliments.

4-H Camp :

Ten boys attended camp this year with four parents attending visitor's night for supper and the evening entertainment.

County-wide Picnic

Sixty 4-H Club members and parents enjoyed a picnic and swim party in July at Luray.

Short Course :

Five boys, two girls and adult leader attended Short Course at V. P. I. The Livestock Judging Team made up of Jack Sisk, Rod Regan and Randall and Glen Updike and Walter B. Kilby went as a delegate from the Sperryville Sr. Club.

District Public Speaking Contest :

Was won by Rod Regan of Happahannock County and the State Public Speaking Contest was also won by Rod at the State Short Course. The award was \$25.00 Savings Bond.

Achievement Night... December 5th

Achievement Night will be held December 5th in the auditorium of the high school. A special talk by the IFIE delegate to Luxemburg from Culpeper County will highlight the program.

2. Plans made to visit club members who have requested tree seedlings.
3. Plans made with County Forest Warden to put on 4-H area demonstration as to proper planting techniques and also observe example plot put out by 4-H members a year ago.

Two 4-H club members planted a total of 2500 seedlings on individual's farms in March. A 95% survival was observed.

Poultry :

Only three boys took the poultry project. One producing broilers for market and the other two for egg production.

Two members completed this project.

Rural Electrification:

Situation:

A large number of boys live in towns or on small farms thus this project fits their individual needs.

Method:

Interest boys in project by explaining importance of knowledge of electricity and explain the awards available for successful completion of project. Explain to them the outline of the future project meetings.

Results :

Have 16 boys currently enrolled in projects. We meet once a month from October to February with two meetings devoted to demonstrations. At the conclusion of the project a field trip is planned to an Electric Plant in Front Royal.

Goals:

Have all 4-H'ers follow extension recommendations as to securing seed, proper planting and fertilization practices.

Method:

Make individual farm visits and advise club members rather than having special meetings during Spring and Summer since transportation is such a problem.

Results:

All six members completed project work.

Forestry:

Situation: Much of the land in Rappahannock is suited only to planting of seedlings because the slope of the land is too great for either cultivation or grazing.

Goal: To increase interest among club members to plant seedlings on their individual farms.

Methods:

1. Enrolling all Junior Club members in Forestry Appreciation project to be taught during club meetings in schools.
2. Show individual club members and parents where it would be beneficial to plant trees on their respective farms.
3. Have area demonstrations of planting of trees and have field day at one 4-H member's farm who has planted trees.

Results:

1. Have 100 boys enrolled in Forestry Appreciation Project for 1958-59.

and reserve champion ew, and grand champion ram in the senior division. These lambs were shown by Randall Updike, Glen Updike, Francis and Lyle Updike and David Igno.

2. The County Livestock Judging Team won second place in the District Contest. The team was composed of Jack Sisk, Rod Began, Randall Updike and Glen Updike. Jack Sisk was high individual in the contest and Glen Updike placed sixth. At State Short Course the team was ruled ineligible because we had two winners in a previous contest that same week at Blacksburg.
3. All but one of my boys enrolled in sheep projects were present both days of the District Sheep Shearing School and Contest. Rappahannock County came home with the champion sheep shearer from the District and later on went to the State Short Course to win the State championship. This boy was Jack Sisk.
4. Visited all boys carrying livestock projects during the summer months.

Sear's Pig Chain :

The five Yorkshire sows found 60 pigs at their first farrowing and raised 38. A banquet was not held this year but the prize money was given to the following boys in order in which they placed after the final judging: Carl Clark, Bud Smoot, Johnny Weaver, Jack Jenkins and Ernest Eubanks.

Corn :

Situation : Six members enrolled in corn project.

sell his Shorthorn Steer at Richmond. The steer weighed 820 pounds, won third place in his class, graded choice and sold to EsKey and Company for 31¢ a pound.

Winchester Lamb Sale (2 sales)

May 12th... 4 Rappahannock County boys exhibited 20 lambs out of a total of 55 shown from Page, Frederick, and Clark Counties.

Rappahannock had Grand Champion single (Jack Sisk), Reserve Champion pen of three (Jack Sisk), and Grand Champion pen of three (Glen Updike). Of the 20 head exhibited: 17 graded price and three graded choice.

June 16th... a total of 42 lambs were exhibited of which 19 head were from Rappahannock. Six boys exhibited lambs from Rappahannock and we had Grand Champion Single and Reserve Champion pen of three, (Jack Sisk).

Orange Area Hog Show and Sale :

Rappahannock County only had two boys showing four hogs , but out of a total of 76 entries from Orange, Culpeper, Green and Madison counties we had grand and reserve grand champion single both owned by Randall Updike. The grand champion sold for \$1.00 a pound and the reserve 50¢ a pound. Glen Updike was a blue ribbon winner in the U. S. No. 2 Class. Both boys were from Rappahannock County.

Culpeper Fairs Show!

Rappahannock County had five 4-H club members exhibiting a total of twenty sheep. Rappahannock won the pen of three, champion junior ram, champion ewe, champion ram in the junior division

2. Have a Livestock Judging Team in competition at State Short Course.
3. Have every boy enrolled in the sheep project attend the area sheep shearing school and all eligible boys participate in the district sheep shearing contests.
4. Increase the number and quality of livestock projects.

Methods:

1. (a) Assist 4-H'ers in selecting the right type of livestock at the proper time.
(b) Teach 4-H'ers proper feeding and management practices and visit every 4-H'er taking a livestock project.
(c) Inform club members as to date and place of various shows and sales and help arrange transportation to these events.
(d) Give recognition to members competing in shows and sales through radio, newspaper articles and announcing in different clubs.
2. Encouraged all interested qualified 4-H Club members to try out for the Livestock Judging Team.
(a) Arrange judging workouts.
(b) Place more emphasis on oral reasons.
3. Encourage all members enrolled in the 4-H sheep project to attend sheep shearing school.
4. Individual 4-H farm visits.

Results:

1. Richmond Jr. Spring Show and Sale:

We had one boy, Walter B. Kilby from Bappahannock, show and

8. Rural Life Sunday was held at the Methodist Church in Flint Hill. A regular church service was held with special emphasis on Rural Life and four 4-H Club boys participated in the service.
9. Share The Fun Contest was held in May with 35 girls and boys competing for prizes. About 75 people were present. The two award-winning Junior Division and Senior Division prizes were taken from profit received from the 4-H Supper.
10. The annual county-wide 4-H picnic was held Saturday, July 12th at Woodland Park in Luray with 60 club members and parents attending.
11. Twenty subscriptions to the National 4-H News were sent to clubs and local leaders.

Honor Club : The Honor Club has not been active in the County this year due to Extension personnel changes.

Project Work :

Livestock :

The 4-H'ers in Rappahannock are primarily interested in livestock projects. The following projects are listed in order of numerical importance: Sheep, brood sow, beef cows, market hogs, dairy and baby beehives.

Goals : 1. More participation in area livestock shows:

Richmond Jr. Spring Show and Sale.

Winchester Lamb Show

Orange Area Hog Show and Sale

Culpeper Fara Show.

- Results:
1. All Stars, Paula Miller and Randall Updike told Senior 4-H Club members how they could become All Stars and the advantages of doing so. Jack Sisk and Jean Lillard were taken into the All Stars at the State Short Course this year.
 2. Of the 111 boys enrolled, 78 completed one or more projects, 70.3% member completion.
Project completion was 75% with 99 of the 132 projects being completed.
 3. Two of the nine junior leaders, Harrison Powers and Walter B. Kilby are to be congratulated for the fine work they did.
 4. Five dollars was given to the members of the Livestock Judging team toward registration fee for State Short Course.
 5. Rappahannock County 4-H'ers observed National 4-H Club Week, March 10th-15th. The Rappahannock News devoted the March 13th issue to 4-H activities. The news articles were written by club members, leaders, parents and agents. Jack Sisk, boy 4-H'er of the year, was featured with a picture and story on the front page of the county newspaper.
 6. It was reported by a committee of both Sperryville Sr. and Flint Hill Clubs that both 4-H road signs were in-order.
 7. 4-H members did not talk to Home Demonstration Clubs as plans were not completed due to change in both Home Agent and Assistant Agent.

4. Pay part of the expenses of delegates to State Short Course from County Council funds if needed.
5. Leaders and 4-H members have met and planned 4-H supper, March 19th, Radio Program, March 19th and Newspaper Article , March 19th.
6. (A) Suggest that the Sperryville Sr. and Flint Hill Sr. 4-H Clubs assume the responsibility of maintaining the road sign in their respective communities.
(B) An article featuring the 4-H Boy of the year will be written for the Rappahannock News during the 4-H Club Week.
7. Pick an outstanding 4-H girl and boy and help them prepare a suitable talk featuring future plans and needs of Rappahannock 4-H Clubs.
8. Ask the County Council officers and adult leaders to meet in April to plan for Rural Life Sunday Services to be held in May.
9. A committee appointed by County Council president will plan the Share The Fun Contest and awards for the contest will be taken from the profit of the 4-H supper.
10. A committee made-up of County Council officers will plan and serve at the County-wide picnic to be held in July.
11. Ask secretary of each club to be responsible for placing one copy of National 4-H News in school library each month. Also see that each leader has a copy each month of the 4-H News.

6. Publicity:

- a. Maintain 4-H Road Signs.
 - b. Sponsor one boy and one girl as 4-H'er of the year during National 4-H Club Week.
7. Have one girl and one boy talk to Home Demonstration Clubs on program of 4-H work and needs.
8. Have a special 4-H Rural Life Sunday Service .
9. Sponsor Share The Fun Contest in May .
- a. The junior winner receive expense paid trip to 4-H camp.
 - b. The senior winner receive expense paid trip to State Short Course.
10. Sponsor 4-H County-wide picnic to be held in July.
11. Purchase 20 copies of National 4-H News to be given to leaders and clubs.

- Methods :
1. Have All Stars, Paula Miller and Randall Uptike, present the requirements and advantages of becoming an All Star to Senior 4-H Club members.
 2. With the use of visual aids teach 4-H club members how to keep records and the value of doing so during the February club meetings. Check records during each 4-H visit and work through Junior leaders in securing record books.
 3. Appoint an outstanding boy in each club as Junior leader, and work through him in securing record books.

4-H NARRATIVE ANNUAL REPORT

1958

SITUATION : There are nine organized 4-H Clubs in Southampton County, with a combined enrollment of one-hundred and eleven boys. The six junior and one senior clubs conducted monthly meetings during the school hours. The two senior 4-H community clubs hold nine night meetings a year in the homes of various club members. The 4-H County Council serves as the backbone of the county organization.

Goals : To assist in the development of boys and girls into useful desirable citizens.

- County Goals:
1. Recommend one boy and one girl for All Star each year if eligible.
 2. Have at least 85% completion of projects.
 3. Have one boy and girl serve as junior leader for each club. Give publicity so all 4-H'ers will know who the junior leaders are.
 4. Send two boys and two girls to State Short Course.
 5. National 4-H Club Week:
 - Sponsor 4-H Supper
 - Special edition in county paper
 - 4-H Radio Program

relationships, plus help of the forestry committee,
107,000 seedlings were planted in 1958 as compared to
31,000 in 1957. The goal established for the county was
50,000.

- (3) Publish article on reforestation demonstration this fall just prior to tree ordering time.
- (4) Try to get wood using industry to sponsor a Forest Field Day at Flyers place below Mt. Salem.

c. General

Interest twenty-five land owners in having W. C. Vernaa, Forester with Virginia Forest Service, make timberland examinations and management recommendations.

3. Results

The three timber-stand improvement demonstrations (1 selective cutting of fuel wood and 2 chemical thinning of undesirable speci) started last year seem doomed. For example the chemical thinning at Ingersoll's wasn't successful and while that at Flat Woods was successful the owner, due to faulty communications, was most upset over our killing what he considered " beautiful trees". Here the young white pine is thriving beautifully. The land owner where the selective cutting demonstration was established has been seriously ill for a year, he has had a help problem, and the combination has prevented completion of the cutting of cull trees which were marked.

Results of reforestation were as follows:

The demonstration started at O'Bannons .. 1957 required replanting about 40% of the three acre area due to dryness that year. Those surviving are just now getting large enough to be seen from highway #522; close inspection reveals excellent livability.

The combined efforts of the forest fire warden , district forester, A. S. C. Program and county agent, all of whom have enjoyed excellent

And 25.8% of the land in farms is in woodland which yields but 2.3% of the gross farm income; the Extension Forestry Committee felt the primary problems were:

- (a) To improve timber stand on land already in woods.
- (b) Reforestation of marginal lands unsuited to crop and pasture production, and thereby increase the percentage of gross income from timber and timber products to 10% of the gross by 1974.

2. When, Where and How

a. Timber Stand Improvement

- (1) Establish four timber stand improvement demonstrations readily accessible from roads in the county by:
 - (a) two .. chemical releases.
 - (b) two.. selective cutting fuel wood.Contact owners explain methods, arrange dates with Extension Forester, Local Fire Warden and Vocational Agricultural Instructor in getting people out.
- (2) Publish stories with illustration of T. S. I. work having been accomplished to date and as results become significant follow through with more articles and broadcast.
- (3) Work on increasing desire or incentive to improve among land owners.
- (4) Publicize A. S. C. Forestry practices.

b. Reforestation

- (1) Discuss reforestation of marginal lands with 20 owners while making farm visits.
- (2) Get land owners to plant 10% more trees from the Virginia Forestry Nursery.

can be learned, publicized and employed if results indicate satisfactoriness.

An apple maturity committee was set up however it never functioned as a group as growers indicated strong reluctance in having people to tell them when their fruit was or was not ready for harvest.

One packing house coop, possibly two, purchased an apple pressure tester, which may be used by both houses to determine the potential storage life was in lots of apples of same variety but from different sources.

Also the agent cooperated in procuring apples for storage keeping quality studies as correlated with leaf analysis studies of the same trees.

Other apple specimens were collected to see if there was any translocation of weed control chemicals used to the fruit. To date no results of these studies has been received but no doubt will be forthcoming in the future.

A look ahead indicates thought and action in dire need as related to:

- Marketing fresh processing apples
- Renovation of apple varieties in our orchards.
- Lowering production costs.
- Efficiency in packing house operation on lot basis.
- Factors affecting storage qualities of apples.

D. Forestry

1. What

Because : Much of our land in farms is unsuited to cropping (including orcharding) or pastures due to rockyness, stoniness and/or steepness of slope.

In most cases the owners went with the Associate Extension Horticulturist and county agent, or otherwise had his head orchard man go along to learn how to recognize harmful and beneficial insects, diseases and when to use what. How could results be measured? Timeliness of applications of sprays is a constant combat with weather conditions; such as wind, rains and prolonged wet spells. This spring the latter coming near to end of the duration of protection afforded by a previous spray meant many orchards were unprotected during a lengthy critical period.

(3) & (6) Findings of orchard inspections were transmitted to growers primarily by Mr. Williams daily broadcasts, news releases, and the county agents weekly broadcasts however three fruit growers meetings were held in addition to the Area Fruit School.

(4) & (5) Fifty-six fruit growers from this and Madison county attended the Area Fruit School. Growers complimented the program and the way it was presented for several weeks after it was held saying " it was the best fruit school we've ever had."

(7) & (8) No tour was held of the Winchester Research Laboratory as growers seemed satisfied to hear and read about it.

Grafting demonstration work was successfully conducted in two orchards primarily to correct pollination problems.

A girdling demonstration was conducted on several trees in one orchard to see if it would improve formation of fruit buds. This work was followed up by several inspections... trees healed over satisfactorily.

d. Stop Drop Sprays

(1) & (2) No helicopter spraying was arranged in the county all being done by airplane the effect veness of which continues to be highly questionable. It is hoped results of helicopter applications from elsewhere

TABLE V.

Ground spraying 6... year ... old apple trees with endrin
Lines of trees in center of continuous ground sprayed strip 6 feet wide
(Orchard No. 1)

Kilby Orchard	Treatment	No. of sites	Date Sprayed	Percent of post-treatment activity			
				12/24/57	1/1/58	1/25/58	3/1/58
	0.48 lbs. endrin / acre	11		27	36	18	0
	(3 pints endrin/100 gal)	12	12/14/57	0	0	0	0
	(80 gal. spray/acre)	11		18	0	0	0
Check		11	-	100	100	91	55
No endrin		12	-	67	100	92	75
		12	-	75	83	67	75

Ground sprays for young trees : For sometime a suitable ground spray method for mouse control in young orchards (apple) has been desired. The under-the-tree situation, so attractive to pine mice, is lacking among young trees. Surface trails, if present in immature orchards, are often widely dispersed with but little or no tendency toward concentration along the line of trees . Orchards of less than bearing age, therefore, present a special problem. To overcome the difficulty, it is believed that some carefully considered form of artificial concentration of the mice is required. Otherwise, the whole orchard floor probably must be sprayed rather than only about 67% of the ground under mature trees.

The desired trail concentration, with a measure of tree safety, can be obtained by several operations. Some disking to leave an uncultivated ridge along the line of trees is usual for young trees. Such disking was found in the experimental young orchard. A three foot circle had been hand hoed about each tree. Grass cover was present over almost 100% of the ground . Frequent mowing of immature grass and weeds in the summer left no appreciable little to attract mice to the alleys. Pine mice were rather reached some distance into the alleys. Endrin was applied with a hand gun in the usual way to a strip three feet wide on each side of each line of trees. The results are given above.

Table IV.

Half row ground coverage with
endrin at various spray concentrations
and rates per acre.
(orchard No. 2)

Gene Wood's Treatment	No. Active Sites	Date Sprayed	Pattern of spray distribution	Post-treatment activity in percentage					
				12/11/57	12/24/57	1/24/58	3/1/58	4/2/58	5/8/58 Final
Emulsible endrin 1.9 lbs./acre 6 pints/100 gal.	10	11/26/57	West side of each line trees	0 18 25	30 18 17	20 27 25	20 27 8	20 45 0	20 18 0
Emulsible endrin 1.5 lbs./acre (4.5 pints/100 gal.)	12 11	11/26/57	west side of each line of trees	0 18 36	0 36 18	8 18 27	8 36 0	0 9 0	0 27 0
Emulsible endrin 1.0 lbs./acre 3.0 pints/100 gal.	10 11 12	11/25/57	West side of each line of trees	90 45 75	80 73 33	60 45 92	60 0 0	70 0 0	0 0 0
Check	12	-	-	-	92	100	100	67	50
No endrin	12	-	-	-	100	100	92	67	83
	10	-	-	-	90	80	80	20	60

The volume of spray applied in all of the above replicates was one half of the 333 gallons needed to apply the standard treatment of 2.0 lbs. of toxicant per acre when a round trip of the boom is made in every middle. While the 1.0 lbs. per acre applied as above was eventually 100% effective, it is doubtful at present and such a reduced application would be sufficient in operational use by growers. The hypothesis for the experiment of Table III and IV was that 1.5 lbs of endrin applied to half of each row would prove satisfactory as a control. For some unknown reason the persistence of a single individual mouse or a few mice after toxicant applications was greater in 1958 series of experiments than in any comparable endrin treatment in the previous 6 years.

Table III

COMPARISON OF EMULSIBLE AND WETTABLE ENDRIN AT 1.5 LBS. PER ACRE
AS A ROENTICIDAL GROUND SPRAY (Orchard No. 2)

Gene Wood's	Treatment	No. active Sites	Date Sprayed	Pattern of spray Distribution	Post-treatment activity in percentage					
					12/11/57	12/24/57	1/24/58	3/1/58	4/2/58	5/8/58
Emulsible endrin 1.5 lbs./acre	12			both sides of	33	17	25	17	17	8
	11		11/27/57	each line of	0	0	18	0	0	0
	12			trees	0	50	25	33	17	0
Wettable endrin 75% powder 1.5 lbs./acre	12			Both sides of	42	42	75	58	33	17
	12		11/27/57	each line of	75	50	17	25	33	33
	12			trees	33	50	50	42	8	17
Check	12		-	-	-	92	100	100	67	50
			-	-	-					
No endrin	12		-	-	-	100	100	92	67	83
	10		-	-	-	90	80	80	20	60

Standard recommendation against pine mice for either form of endrin is 2.0 lbs. per acre. The reduced rate of 1.5 lbs. per acre was applied to widen the differential effectiveness between emulsible and wettable forms, if such exists. At 2.0 lbs. per acre, the apparent difference in potency shown here might largely disappear. Only by repetition of these experiments can it be shown that wettable endrin is or is not less effective than the emulsible product. The wettable toxicant would likely persist longer on the orchard floor than the emulsible material. Many growers show a great preference for the wettable powder so treated that, if correctly handled, there is but little drift to the air.

TABLE II

Cost reduction by half-row ground spray coverage
with endrin at 1.5 lbs. per acre (a)
(orchard number 3.)

Lee Thornton	Treatment	No. of Sites	Date Sprayed	Pattern of spray Distribution	Post-treatment activity in percentage			
					12/28/57	1/24/58	3/1/58	4/2/58
	Emulsible endrin 1.5 lbs./acre (4.5 pts/100 gals.)	12		Round trip of the boom in every other middle	0	25	0	0
		12	12/16/57		0	8	8	8
		11			18	0	18	0
	Wettable endrin 1.5 lbs./acre (75% powder)	12		Round trip of the boom in every other middle	17	17	0	0
		12	12/17/57		0	17	0	0
		12			8	58	8	0
	Check	11	-	-	91	100	91	55
	No endrin	12	-	-	67	67	75	42
		12	-	-	75	75	67	25

(a) Concentration of the spray in each case was 1.5 times the 3 pints emulsible or equivalent wettable form as used to apply standard 2.0 lbs. per acre. Volume of spray dispensed was one-half of the 333 gallons per acre needed to apply 2.0 lbs. of toxicant. If this half-treatment should eventually prove effective in practice, the saving would be one-half pound of endrin per acre and half of the application costs required by the standard recommendation to fully treat all rows at the 2.0 lb. rate.

NEW DEVELOPMENTS WITH ENDRIN SPRAYS FOR MOUSE CONTROL 1957-58

by Frank Horsfall, Jr.

Virginia Polytechnic Institute

Table I. Endrin... fertiliser combinations as a rodenticidal ground spray.

R.E. Wood's	Treatment	No. Active Sites	Date Sprayed	Post-treatment Activity in percentage					Final 5/8/58
				12/11/57	12/24/57/	1/24/58	3/1/58	4/2/58	
	Emulsible endrin	12	11/29/57	25	33	42	0	0	0
	2.0 lbs./acre	10	11/30/57	0	50	30	0	0	0
	Urea 40 lbs./100 gal.	12	11/29/57	8	8	42	33	25	25
	Wettable endrin	11		0	18	45	18	27	55
	2.0 lbs. endrin/ acre	9	11/28/57	36	22	56	22	0	0
	Urea 40 lbs./100 gal.	11		0	0	0	0	0	0
	Emulsible endrin								
	2.0 lbs./acre	11	12/17/57	-	9	36	18	36	0
	Ammonium nitrate	9		-	0	11	11	0	0
	40 lbs./100 gal.								
Lee Thorn-ton	Emulsible endrin	11		-	0	18	0	0	-
	2.0 lbs./acre	11	12/15/57	-	0	9	0	0	-
	liquid 8-8-8 fertiliz.(a)	10		-	10	0	0	0	-
	5.5 gal. /100 gal.								
	Check (b)	12		-	92	100	100	67	50
	No fertilizer	12		-	100	100	92	67	63
	No endrin	10		-	90	80	80	20	60

(a) Equivalent to 55 lbs. of dry 8-8-8 fertiliser.

(b) Applications of liquid 8-8-8 were made in Orchard No. 3. Compare 8-8-8 treatment with check in Table II

(c) With trees of a limb spread radius greater than the 11 foot length of boom coverage, an unsprayed unfertilized strip parallels each line of trees. No deleterious effect has been seen on mouse control but not all of the under-the-tree area would be fertilized.

When soluble fertilizer salts are dissolved in spray tanks partially filled with ice water of the Dec. period, a freezing mixture forms. The later additions of fresh water to fill the tank causes large quantities of small ice crystals to form and thoroughly clog sprayer screens.

25% or less considered as control.

Fertilizer plus emulsible endrin satisfactory as used with horizontal boom.

report was put on on mouse findings; it appeared to be an eye opener. Many orchardists called for copies of " Mouse Control With Ground Sprays". Fifteen to twenty asked how to look for mice and how to determine range of their activity within an orchard. Once concern had been built up orchardist got to work . One supply house reported 7 or 8 orchardists used endrin ground spray. More effective baiting was done using phosphide treated apples because of the orchardist first learning how to determine and locate mouse activity.

Arrangements were made with three orchardists for Dr. Frank Hersefall of the Experiment Station Horticultural Staff to conduct experiments in mouse control using Endrin, applied alone, with various fertilizers and different application methods. The following tables show the results:

(See pages 19, 20, 21, 22 and 23.)

Looking ahead at this problem it would seem our next effort would be to encourage construction and joint ownership of several horizontal boom type spray rigs which can be mounted in front of spray trucks as there are none in the county and experiments evidence indicates this is the most effective and economical method of applying endrin ground sprays.

- b. and c. (1) Our mailing list of peach and apple growers to receive spray service cards has to be revised annually because of deaths and different people renting some orchards from year to year. During this year spray service cards were sent to 29 peach growers and 60 apple growers.

(2) Requests for orchard inspections were never lacking and consequently indicates the help was appreciated and considered valuable.

growers concerned or his representative, in process teach them how, when and where to look; and give control recommendations based on findings.

- (3). Hold monthly fruit grower discussion meetings on timely spray problems.
- (4). Cover topics of special concern among growers at Area Fruit School.
- (5). Hold " Information Cafeteria " in connection with Area Fruit School while specialists (entomologist, pathologist, horticulturists) are on hand.
- (6). Through weekly news column and broadcasts advise growers of Mr. Williams' findings on orchards inspected and control or prevention recommendations.
- (7). Arrange for tour of Winchester Research Lab. Experimental Plots for Rappahannock Growers during summer working through George Williams.
- (8). Follow through on grafting work being planned by C. E. Johnson, Jr. to see if certain young York trees not affected by fire blight are actually resistant to this disease.

d. Stop Drop Sprays

- (1). Check on results of stop drop sprays applied by helicopter (rates by varieties , timing, follow through storage if possible.) and reports findings to growers.
- (2) Have Extension Horticulturist and those in research to follow through locally on results of recommendations as to timing and rates of applying materials in both the orchards and packing house using pressure testing gauge if available.

3. Results

a. Mouse Control

Following inspections of eight orchards in November of 1957 a

- (4) Codling Moth
- (5) Mites

c. Diseases:

- (1) Powdery Mildew
- (2) Fireblight
- (3) Scab

d. Further studies needed on Stop Drop Spraying:

- (1) Methods
- (2) Rates
- (3) Timing

2. When, Where and How

a. Mouse Control:

- (1) Inspect orchards to get idea of mouse activities in November. Incorporate findings in circular to growers notifying them of discussion meeting should inspection prove such is advisable. Enclose copy of " Chemical Mouse Control " leaflet.
- (2) Work with Dr. Frank Horsefall in mouse control experiments being conducted at Gene Wood's and Earl Kilby's orchard. Have him explain methods , materials, and rates used at the Area Fruit School to be held February 17th. Also give results found to that date. Publicize results of different rates and methods used in applying same. Also results obtained from nitrogenous fertilizers applied in conjunction with mouse control chemical. Have reports at Area Fruit School on data collected to that date.

b. and c. Insects and Diseases

- (1) Assist in getting Peach and Apple " Spray Service " cards sent to all such growers in the county.
- (2) Commence weekly orchard inspections upon requests from growers with George Williams, Associate Extension Horticulturist, and

Rappahannock Angus (36 consignors)	1096 feeder calves.
	36 yearlings
	27 veals.
Warron-Page (1 consignor)	7 feeder calves
Winchester Spring (3 consignors)	35 " "
Winchester Fall (3 consignors)	112 " "
Winchester Yearling (1 consignor)	10 yearlings
Culpeper Sept. (6 consignors)	128 feeder calf sale
Culpeper No. (2 consignors).....	16 feeder calves
Fredericksburg (2 consignors)	125 fat cattle.
 Total	 54 consignors
	1592 head.

Details on the Rappahannock Angus Sale are as follows:

Averages; 463 pounds, \$32.34 / cwt., \$149.79/ head, \$164,102.10 gross,
38% were heifers and 62% steer calves . Of the total consignment they were
bought as follows: 347 head to Penna., 222 to Ohio, 91 to Maryland, 23 to
West Virginia, 47 to North Carolina, 15 head to New Jersey, while 179 stayed
in Virginia.

Prices and weight by grade and sex were as follows:

	<u>Stuvers</u>	<u>Grade</u>	<u>Heifers</u>	
531 lbs.	\$37.70	AA	474	\$30.27
492	36.31	A	441	29.82
476	33.50	G	429	28.02
450	31.65	H	399	26.35

C. Horticulture

1. What

Based upon summary of statistical horticultural data and especially
upon their observations of happenings in orchard and packing houses the
Horticultural Committee felt the following to be the primary problems
confronting the industry locally:

a. House Control

b. Insects:

- (1) Aphids
- (2) Leaf Roller
- (3) Leaf Miner

vaccinated in November plus other known of it is estimated 1169 head, or 84% of the heifers in Rappahannock were vaccinated at the proper age (4-8 months) .

Thirty-six lay-leaders representing farmers and part-time farmers among whom were: a lawyer, mail carriers, fire warden, highway workers, etc. cooperated in canvassing owners of the remaining untested herds, after getting instructions on the details of the program from the county agent and area supervisor.

Results of their efforts were very favorable considering the fact that the "cream had been skimmed." in 1957. The state veterinarian's office had three of his vets come do the work lined up by the committeemen and extension personnel. One of these vets stayed in the county but a short time, another stuck as long as sailing was smooth with a good breeze blowing. Dr. W. E. Cooper is hereby crowned King of the state vets in the field although he calls himself the ' little indian' on the staff. He has stuck by us, the committee, and the farmer and has had plenty rough going dealing with adverse weather conditions and the stubborn end of the cow-owners.

To date all but 30 herds have been tested representing less than 2% of the total cow population. This has been the toughest , most time consuming goal this county agent has undertaken in his 24 years of Extension work. We failed to keep a Better Sires Record this year however it is felt 40-50 purebred sires were placed including: beef bulls, rams, and boars. Rappahannock cattlemen marketed the following through organized sales:

market operators and Division of Markets by broadcasts and news articles in January and February.

- (2) Hold docking and castrating demonstrations on January 13th at George Wood's and John William's on the different methods that can be employed. Also discuss: changes in marketing and likely results price-wise, feeding and winter management of the flock (feeders, rations, means of getting ewes to own lambs, hoof trimming, etc.).
- (3) Have 80% of lambs produced in county docked and castrated.

C. Purebred Sires Program

1. Place the following purebred sires:

(a) Beef bulls.....	35
(b) Rams	15
(c) Boars	10
2. Publicize Purebred Sire sales held in the state particularly those within a reasonable distance of cattlemen.
3. Assist breeders in locating purebred sires offered at private treaty.
4. Just prior to ewe breeding season (early July) endeavor to work up (Ram Wanted and Exchange" list and circularize among sheepmen.

3. Results:

Results of the three county-wide Bang's disease clinics were as follows:

April..... 33 heifers vaccinated and 74 cows bled on 21 farms.

July 84 heifers vaccinated on 22 farms.

November ..265 heifers vaccinated on 45 farms.

The agent contacted the practitioner, arranged the schedule and accompanied the vet to the farms.

The Virginia Livestock Health Bulletin shows 804 head of heifers (57.9%) had been vaccinated against Bang's disease through October of this year as compared to 732 (52.7%) last year. With those the agent assisted directly in getting

- advising owners of details and also enclose request form. Locate vet having time to do work and send out schedule notices to owners concerned saying when the work will be done.
- (2) In April confer with principals of high and grade schools on emphasizing Bangs control and prevention as a means of preventing Undulant Fever through milk sterilization, blood testing of family cows and heifer vaccinations.
- (3) Publish experience stories in county paper, at 1-2 weeks preceding, efforts to organize county-wide program on:
- (a) Housewife having had Undulant Fever and how it affected her household responsibilities.
 - (b) Farmer having had Undulant Fever and how it interfered with his farm management program.
 - (c) Two to three cattlemen who have had Bangs outbreaks in their herds emphasizing the costs and affects.
- (4) Organize lay-leaders on community basis to be composed of Feeder Calf Consignors, Farm Bureau Directors and other leading farmers to contact herd owners not having had a herd test since January 1st, 1957 relative to having their herds tested and heifer calves 4-6 months of age vaccinated. Supply these men with lists of owners not having had herd tests. Report results to this office and then contact Area Supervisor as days bleeding work are lined up and which leader will accompany him to the farm. This cooperative effort to start in February and continue as time allows.
- (b) Docking and Castrating of Lambs
- 1. Publicize new ruling grading and selling of buck lambs as adopted by

to the Commissioner of Agriculture, the head of the Agronomy Department and our principal local fertilizer distributor. Results: 4-16-8 was dropped from the approved analysis list by the fertilizer grades committee because of lack of tonnage handled by distributors. Locally this reasoning was unfounded because this analysis fertilizer wasn't even available for bulk spreading and consequently farmers couldn't get it even when requesting same.

The above (1957-59) summary included 298 samples. It may be of interest to know that: of the 148 samples with a pH of 6.0 and higher, 110 had a very high calcium level; and of the 150 with a pH below 6.0, 79 had a very high calcium level. Could the latter be explained as a result of droughts ?

B. Livestock

1. A. What

After presentation of county livestock statistical data computed on basis of animal units, feed bought, value of and products sold, animals marketed per year per producing female, etc. the County Livestock Committee selected the following as the most outstanding problems:

- a. Bangs Disease Control and Eradication with 100% blood testing and heifer vaccination goals.
- b. Docking and Castrating of lambs.
- c. Better Sires Placement

2. When, How and Where :

a. Bangs Disease Control and Prevention:

- (1) Organize County-wide Bangs Disease Control Program in April, July, and November aimed primarily at blood testing small herds, family cows and vaccination of heifer calves to be kept for replacements at 4-8 months of age. Circularize cow owners mailing list

four present to observe methods of application. An acre of pasture was treated with 2,4-D @ 1½ lbs. in 20 gallons of water. Results may be determined next spring. The chemical was supplied through the courtesy of the local dealer.

In general use of chemical weed control on farms remained at about the same rate as last year with the exception that there was a decided reduction in amounts used for controlling brush and honeysuckle on fence rows. One demonstration was conducted in controlling chickweed and wild strawberry in C. T. Bruce's yard at Washington. In March 2-4-5 T. P. was applied according to directions of the manufacturer with excellent results. The agent wrote recommendations on all (approx. 350) soil samples tested in 1958. To date no summary has been received however it is felt the number of samples tested in 1958 equaled and possibly exceeded this amount by 10%. In view of the report that 4-16-8 was to be discontinued as an approved analysis a study was made in April of analysis made during the period of Oct. 1, 1957 through April 8th, 1958, and all samples (321) tested in 1957. The following summary was found:

<u>1958</u>		
<u>Phosphate</u>		<u>Potash</u>
4.65	very high	14.65
18.4	high	25.85
44.2	medium	43.65
32.7	low	15.95
<u>Oct. 1957.....April 8, 1958</u>		
2.05	very high	15.25
15.25	high	32.45
45.75	medium	41.75
35.15	low	10.65

Thus the agent felt fairly conclusive evidence of the importance of keeping a fertilizer of a 1-4-2 ratio available for farmers to use in reseeded pasture and mixed hays. This summary was transmitted by letter

Kates, Weed Control Specialist, who has applied the chemical at identical rates. In June the treatment @ 4 lbs. / acre was repeated under favorable weather conditions. Results remain to be seen in the spring.

- (b) The honeysuckle and poison ivy control demonstrations in apple orchards of Mrs. C. R. Rite's and Windsor Lodge Farm through the use of 2-4,D and Amino Triazole which were described in our 1957 report today shows the amino triazol to be the more desirable as these pests show no come-back where the material was used, however a trace of poison ivy is coming back under the trees in the 2-4,D plots.

The stick-weed control demonstration at the Woodward farm in 1957 through the use of 2-4,D showed a negligible come back this year. The same was true of the corral berry control demonstration.

The brush and other pest control work applied on the boy scout property required some spot treatment this spring and presently appears effective. DuPoint's local representative gave the agent some Carnex (Fenuron Felleted) which was also used on the scout property adjacent to highway 600 west of Sperryville. This material was applied broadcast by hand. Also the local salesman applied some of this material along the same road at the back entrance of the Johnson farm. It is very effective but the agent feels is a " hot potatoe " and must be used with extreme care. Following its application at the Johnson farm a heavy shower fell washing some of the Carnex from the treated area resulting in the killing of brush some 18-20 feet distant.

A buttercup control demonstration in C. E. Johnson's pasture adjacent to route 522 south of Sperryville was established in November with

not grown in rotation, using 585 tons of lime and 760,700 lbs. of fertiliser.

The Preliminary Soil Survey embracing 60 pages was completed in May publishing 250 copies. This report included a foreward, information On Soil Maps, legend of major symbols, use and management, how to obtain maps showing general distribution of soils, numerical list of soils of the county, productivity table, description of 53 major soil types, and a glossary of soil terms.

As an indication of interest in the soil survey 134 of these reports have already been requested and distributed. It is estimated atleast seventy farmers have consulted soil survey maps in connection with fara operations and/ or purchased of land. An explanation of the soil survey; how made, what it shows and how it may be used was given by the agent at our Annual Rural Institute of ministers, agricultural, welfare and health department workers that they might know of a fundamental phase of extension work.

Our fara unit demonstrator applied the following amounts of high analysis fertilizer: 10,100 lbs. 0-30-30, 12,900 lbs. 10-20-20, and 16,800 lbs. of 0-40-20. Yields of all crops were exceptionally good this year as a result of his cultural and management practices aided to a great extent by ample rainfall.

Other agronomic activities and results included:

- (a) Continuation of Canadian Thistle Demonstration at R. W. Miller fara using Amino Triazole. For some unaccountable reason this material hasn't proved as effective in controlling this weed pest on this fara as it has elsewhere in the state according to Allan

(2) Follow-up on Community level with same talk and visual aids.

3. Results :

With but few exceptions the goals under when and how were carried out.. that the methods of stimulating interest and action were employed. Throughout the year the county agent was complimented on this article, or that broadcast, or perhaps a meeting. One oversight affecting agronomy activities was the time required in assisting with and publishing our Preliminary Soil Survey.

During the year the following Agronomy work was done: News Articles; Alfalfa Weevil Control ..3, Weed Control 1, Middleburg Research 1, Proper use of soil 4, Small grains 1, Wheat, 1, Corn Production 3, Hay 2, Ensilage Mixtures 1, No record was kept on broadcasts by subjects covered.

During the year farmers are known to have done the following according to county agents recommendations: 12 farmers seeded 95 acres Alfalfa of recommended varieties using 122 tons of lime and 77,800 lbs. of fertilizer. Nineteen farmers established 246 acres of pasture on which 411 tons of lime was applied and 173,700 lbs. of fertilizer. Twenty-nine farmers seeded 326 acres of mixed hays using 308 tons of lime and 169,000 lbs. of fertilizer. This represented 35 different fields of which soil tests revealed 14 did not need lime. Acreage wise 173 acres out of the total needed no lime.

Fourteen farmers limed 477 acres using 875 tons which did not embrace seeding or top dressing of a hay or pasture crops. Essentially speaking this was corn land.

Sixty three farmers top dressed 1473 acres of permanent pasture and hay

b. Increasing Yields Corn Silage

- (1) Continue emphasizing use of soil survey maps, recommend intensive use of sils suited for corn, in other words keep corn on corn land and hay on hay land.
- (2) Emphasize corn fertilization, adapted varieties, planting methods, etc. by radio, news paper and individual contacts in February and March.
- (3) Establish ensilage corn demonstrations.. 1 per registerial district.

c. Pasture Management

- (1) Continuation of pilot demonstration with I. L. Parrish .
- (2) News articles and broadcast on pasture management and improvement.
- (3) Assist 12 farmers with their management plans.

d. Weed Control Know-How

- (1) Through the cooperation of Allan Kates, Weed Control Specialist and local custom sprayers establish weed and brush control demonstrations as follows:

Corral Berry 2
Sumac 1
Stickweed 2
Wild Garlic in Pasture2
Wild Garlic in Orchardgrass ...2

e. Nitrogen Fertilization Orchard Grass Grown for Seed

- (1) Establish two demonstrations, one in vicinity of Flint Hill, the other in the vicinity of Washington.

f. Hay Equivalent Supply Per Animal Unit

- (1) Complete ten farm Development Plans.

g. Miscellaneous

- (1) Explain Soil Survey... How made and How may be used at "Rural Institute" in April.

principal problems to be as follows:

- a. Lack of know-how among farmers in maintenance of established Alfalfa stands.
- b. Too low yields in corn grown for silage.
- c. Poor pasture management.
- d. Lack of weed control know-how.
- e. Insufficient fertilization orchard grass grown for seed.

The committee felt the general objective from the standpoint of crops, including pastures, to be an effort to increase the annual hay equivalent feed supply per animal unit.

These conclusions were based upon the committeemen's knowledge of farms in their respective communities and upon statistical data assembled by the Extension Agronomist and the county agent.

2. When, How and Where :

a. Alfalfa Maintenance :

- (1) Publish article in April on maintenance applications of fertilizer in county paper giving research results.
- (2) Through cooperation of ACP office manager determine soil types from survey maps when farmers bring samples in for test or make application for ACP aid.
- (3) Make liming and fertilization recommendations on all soil tests for county, entering "personal notes" on soil test sheets to land owners when need is indicated by: the test results, soil type involved and/ or poor choice of analysis indicated under "field history."
- (4) Endeavor to establish six (1 per district) Alfalfa maintenance demonstrations this year.

Council and Advisory committee. Commodity Committees are:

Horticulture	6 members
Agronomy	6 members
Livestock	6 members
Forestry	7 members

These committees were selected as follows: surveys by magisterial district were conducted asking who were leading fruit growers, producers of crops, livestock, and poultry who, in addition to being master producers, were public minded and concerned over the welfare of their neighbors. After the surveys were summarized leading candidates were then approached and asked to serve on a commodity committee which they accepted.

The forestry committee was selected by the county agent and the Chief Fire Warden. New members of the various committees to replace those who have become inactive, have been selected or suggested by active committee-men.

III. Program and Plans

A. Agronomy

1. What :

Because : (1) the topography of the county is steep to rolling resulting in comparatively little land suitable for row crop production; (2) ruminating animals being by far the greatest in number of the livestock enterprise; (3) the tremendous increase in acreage being seeded to Alfalfa; (4) the increase of weeds in both pasture and cropland; (5) many pastures being reduced in quality as a direct and indirect result of prolonged droughts in recent years; and (6) the cost-price situation making efficient production all the more necessary as a matter of survival in the farming business the Rappahannock Extension Agronomy Committee felt the

1954 Census data also shows that of the 583 farm operators 338 had other income of family exceeding the value of agricultural products sold. Also there are 269 operators working off their farms of which number 213 worked off their farms for 100 days or more. This census also shows that 594 persons to be hired as farm labor on 121 farms.

Since there are 2530 persons of school age or younger, and even after considering those employed on farms, the farm operators, as well as the rural non farm population there are a substantial number of people available for industrial employment. Considering this deduction plus there being 240 farm operators with 30 acres or less, and the fact that all of the 531 persons from 15-19 years of age are not in school industrial employment would mean much to the overall economic situation.

Since 1954 a number of farms have been purchased either by city or urban people. It is estimated that 25% of the farms of 150 acres plus are now being operated by owners of a non-farm background or people who were not farming ten years ago. In addition there is a definite increase in the number of small properties bought for week end retreats and retirement homes by city or urban people. In practically every case this movement has meant improvement in land, buildings and fencing.

II. Extension Organization

There is no over-all Extension Organization however this is a long time goal which the Extension Workers are looking forward to having when it is mutually felt her people are ready.

At present the Extension Organization consists of advisory groups: that of Home Demonstration, Agricultural Agent through commodity committees and 4-H work. There was one county wide joint committee: the 4-H County

Chester, and Brandywine; from sedimentary materials... Culpeper, Albemarle, Lewisburg and Hazel. In the mountain foot hills there are Hayesville and Halewood while mountain colluvial soils are Dyke, Unison and Thursont.

Rappahannock's topography, climate, rainfall, and soils lend readily to the production of tree fruits, livestock, and general farming including poultry production which are the principal enterprises of economic importance. Rappahannock is strictly an agricultural county there being no sizeable industry and no railroads.

Most of her farms however are located on improved or hard surfaced roads making it fairly easy to get produce and livestock to market which in 1954 amounted to an estimated \$1,423,948.00 in value of products sold.

Ninety-four percent of all Rappahannock farms have electric power while 49% of the farmers have telephone service. Of these homes, 344 farms reported piped running water.

Machinery wise the 1954 Census of Agriculture shows: 66 power feed grinders, 5 grain combines, 13 corn pickers, 77 pickup hay balers, and 15 forage harvesters in use on farms. Other equipment includes 230 trucks and 281 tractors.

There are: two cooperative apple packing houses, two cooperative apple cold storages, one cooperative apple juice plant, one locker coop, and one supply cooperative servicing her people.

During the twenty year period, 1930-1950 Rappahannock's population declined approximately 8% to 6112 persons. Of this number; 82.3% are of the Caucasian race, 71% are rural farm people and 29% rural non-farm people. from the stand point of farm operators 512 are white and 71 non-white. Of these a total of 476 are full owners.

ANNUAL NARRATIVE REPORT

1958

I. Introduction :

Rappahannock County is located in the Northern Piedmont section of Virginia. Its boundary on the west extends to the Blue Ridge Mountains adjoining the Shenandoah National Park. On the east the county is bounded by the Rappahannock River which separates this county from Fauquier. Culpeper and Madison counties lie to the south and southwest.

In area Rappahannock has a total of 274 square miles which includes 583 farms representing 63% of its total area. Total cropland, including that in orchards, is 34,776 acres, while there is 52,228 acres of pasture land and 29,139 acres devoted to woodland.

Brown, reddish brown and red subsoils predominate with brown loam surface soils derived from dark colored crystalline rock. Inherent fertility is relatively high and response to lime and fertilizer is favorable.

There are three definite geological areas commencing with greenstone at the Blue Ridge Mountains, bordered on the east by marshall granite. The eastern geologic area is sedimentary high in quartz and feldspars that are comparatively low in herent plant fertility however soils derived therefrom respond well to proper management.

Principal soil types derived from these geological area are: from greenstone-Clifton and Catocin; from Marshall granite.. Eubanks,

CONTENTS

I. Introduction	page 1
II. Extension Organisation	3
III. Program Planning	4
A. Agronomy	4
B. Livestock	11
C. Horticulture	15
D. Forestry	25
4-H Club	29

ANNUAL REPORT

1958

W. H. Igne
County Agent
Rappahannock Co.

ANNUAL NARRATIVE REPORT

COUNTY
EXTENSION
WORK

Virginia Agricultural Extension Service

W. H. Lyne

Name

County

Agent

Title

Walter L. Saunders, Jr.

Assistant Agent

Assistant Agent

Assistant Agent



1958

Rappahannock

County