VIRGINIA

AGRONOMY ANNUAL REPORT 1934

Index

FCL-5

COOPERATIVE EXTENSION WORK
IN
AGRICULTURE AND HOME ECONOMICS
STATE OF VIRGINIA

VIRGINIA AGRICULTURAL AND MECHANICAL COLLEGE AND POLYTECHNIC INSTITUTE AND UNITED STATES DEPARTMENT OF AGRICULTURE, COOPERATING

EXTENSION SERVICE

Blacksburg, Virginia.
December 15, 1934

Mr. Jno. R. Hutcheson, Director,
Blacksburg, Virginia.

Dear Mr. Hutcheson:

I submit herewith the annual report for the Extension Agronomy Department during the period from December 1, 1933 to November 30, 1934.

Very truly yours,

W. H. Payne
Extension Agronomist

WHP-hr

ANNUAL REPORT

VIRGINIA

EXTENSION AGRONOMY DEPARTMENT

(Project 16)

December 1, 1933 to November 30, 1934

Personnel

W. E. Byrne	Full time
V. E. Doughtrey	Full time
S. F. Grubbs	One-third time since Sept. 15, 1934
H. S. Obenshain	One-sixth time
R. G. Anderson	Thirty days
T. L. Copley	Thirty days

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Organization Procedure

At the beginning of the year the Extension Agronomy staff was composed of W. H. Daughtrey and W. H. Byrne full time; S. S. Obenshain one-sixth time; and B. O. Anderson and T. L. Copley one-twelfth time. In addition to these men R. C. Harvey, field agent of the Virginia Crop Improvement Association; and Professor T. B. Hutcheson, who is subject matter head of the department, have done considerable extension field work. On September 1, R. C. Harvey resigned as field agent of the Virginia Crop Improvement Association; and on September 15 S. F. Grubbs was employed as field agent of the Virginia Crop Improvement Association, and one-third time assistant extension agronomist. T. L. Copley resigned as of July 1, and no one has been employed in his place.

Close cooperation is maintained between the teaching, experimental and extension staffs by having Professor T. B. Hutcheson, subject matter head of the department, and holding joint conferences of all sections.

Correlation of our work with other extension departments is maintained through regular monthly meetings of all subject matter extension employees.

Our Soil Fertility project has been under the supervision of W. H. Daughtrey, except the soil management phase which has been handled by S. S. Obenshain. W. H. Byrne, with the assistance of R. C. Harvey and S. F. Grubbs, has been responsible for the Good Seed project. Tobacco has been handled by T. L. Copley in the Fire-cured belt, and by B. O. Anderson in the Dark-fired belt.

Due to the AAA program, W. H. Daughtrey and W. H. Byrne have had very little time to devote to the regular extension program. W. H. Daughtrey has had charge of the cotton and peanut reduction programs in the state, and in addition has assisted with the wheat, tobacco and corn-hog programs. W. H. Byrne has assisted with all of the AAA programs except cotton.

Phases of Work Selected for 1934

Soil Fertility: With stress upon clover, pasture improvement fertilizers and soil management.

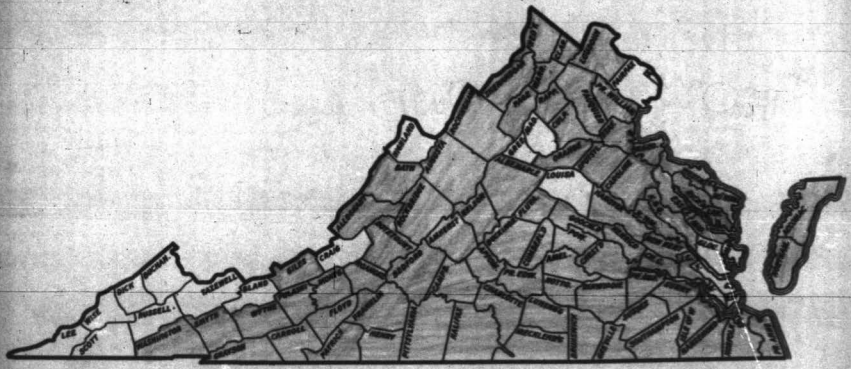
Good Seed: To include the supervision of the production of certified seed by members of the Virginia Crop Improvement Association, and demonstrations with good seed compared with ordinary seed. Also sponsoring of the State Seed Show.

Tobacco: Most consideration tobe given to proper varieties, soil adaptation, fertilization, cultural methods and harvesting.

Agricultural Adjustment Programs: To assist in fitting production to market demands by cooperating with county agents in forwarding these programs in their counties.

Factors which Determined Inclusion in Year's Program

The above phases of work or projects were selected because (a) a fertile soil is essential for successful agriculture, (b) only one acre in fifteen of Virginia's five millions cultivated acres is planted to legumes, (c) experimental data shows that the proper use of fertilizer increases corn 14 bushels, wheat 6½ bushels, and hay 1000 pounds per acre, and other crops in proportion, (d) the results of experiments and demonstrations show conclusively that pasture can be economically improved by topdressing with fertilizer and lime, (e) although tobacco comprises less than 4.5 percent of the total land in cultivation it ranks second in total value of all crops grown. The demand for tobacco has changed in the last few years, which requires the production of an entirely different type than was formerly in demand. This is especially true of flue-cured tobacco. To produce the types in demand it is necessary for farmers to change their production methods, (f) it has been conclusively proven that good seed not only increases yields, but improves the quality of crops, and reduces



Counties in color are those in which a representative of the Agronomy department worked in 1934.

the cost of production, (g) for a long time farmers in this state, as well as in others, have suffered as much or more from over-production, or blind production than anything else.

State maps will be found throughout this report which illustrate the counties in which work was done on the different projects.

Soil Fertility

Our plan of work for 1934 calls for soil fertility work including clover, pasture improvement and fertilizers. However, Mr. Daughtrey's and my time has been so taken up with the AAA programs that we have accomplished very little with this project.

The farm of Colonel H. S. Battle, Vice-president of the Norfolk and Western Railway, was visited for the purpose of laying out a crop and fertilizer system. The fields on this farm were rearranged and recommendations made as to rotations, fertilization and crops. Our recommendations will be found as Exhibit A.

Mr. Grubbs cooperated with the Agricultural Engineering Department in holding a series of meetings in Campbell county for the purpose of interesting farmers in starting a large scale terracing and rotation program to conserve the fertility of their soils. The meetings resulted in widespread interest and it looks now as if terracing will receive county-wide attention in that county for the next several years. Two thousand acres were pledged to the program, and pledges are still being received. As soon as sufficient acreage is pledged, equipment will be purchased by the interested farmers and actual work started.

One-half day during the Farmers' Institute was devoted to visiting the soil improvement experiment plots, and putting on a program in relation to soil. Our part of the program will be found as Exhibit B.

Several news articles for the Extension Division News and radio talks were prepared. The subjects of these articles and talks will be found as Exhibit C.

Articles were furnished the Progress Index, Petersburg; and County Agent C. H. Mathews, Blackstone; for publication. Subjects of these articles will be found as Exhibit D.

Mr. Obenshain, who was responsible for the soil management phase of the Soil Fertility project reports that heput up an exhibit at the State Corn and Grain Show which illustrated the soil types of Virginia, and the importance of the soil survey; that he discussed soil management to a group in Montgomery county, and at a meeting of the vocational agricultural teachers of the state. He reports that he attended two soil testing meetings in Shenandoah county with County Agent Dickenson; and two in Fauquier county with County Agent Copley; for the purpose of testing soil samples and recommending fertilizer practices for the farmers who submitted the samples. His report shows further that he made a trip to Halifax county with County Agent Hall, and P. A. Tucker, for the purpose of looking over proposed vineyard sites, and that he and Mr. Tucker visited the most important vineyards in the state determining the soil types, and testing them for acidity and plant food. This was done to determine the soil type best adapted to grape growing and the best soil management practices for grapes. He reports that he has tested 107 samples of soil during the year.

Professor T. R. Hutcheson devoted considerable time to soil fertility extension work during the year. Among Mr. Hutcheson's accomplishments were:

A survey of the Sweetbrier College farm for which he made recommendations as to rotations, fertilization and methods of operating the farm, and keeping up the soil productivity.

A survey of the State Penitentiary farm and a system of cropping and fertilization practices worked out, which are being followed.

A trip to Lebanon for the purpose of working out plans for operating the Poor Farm, by which the TVA was induced to cooperate in this project.

A tour with H. H. Gordon of the Agricultural Engineering Department, to the demonstration farms in Southwest Virginia, for the purpose of advising fertilizer and cultural practices.

A trip with representatives of the Federal Soil Erosion Service to locate an area suitable for a soil erosion project in Virginia. As a result of this trip the project was eventually established at Chatham.

A trip with fifty land appraisers and Federal Land Bank representatives for the purpose of advising them about the value of land on which the Federal Land Bank has loans.

A conference of the College Fertilizer Committee was attended in Baltimore.

Meetings were addressed at Tappahannock, Blackstone and Appomattox on the use of fertilizers.

The State Horticultural Society was addressed on orchard cover crops.

Several days were devoted to assisting with the State Seed Show, at which time a talk was made on, "Intelligent Use of Fertilizers".

Tobacco Project

Flue-Cured: Mr. Copley reports on his work with flue-cured tobacco as follows: "My efforts in extension work were somewhat hindered by the fact that the agents in the tobacco counties were so busy with the crop reduction programs. Of course, I could not expect very much cooperation, as I could easily see they had little time for ordinary extension work. I was able however, to get in some very good meetings, especially in Halifax county. This was due to the fact that

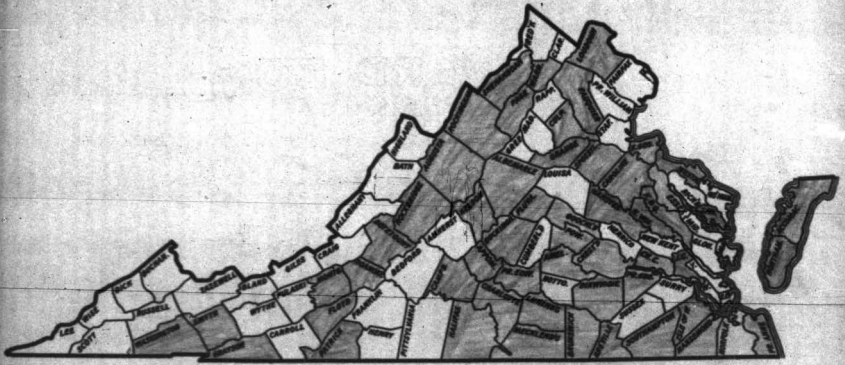
Mr. Hall had several men's clubs well organized, and I was able to appear before them at some of their regular meetings."

Mr. Copley reports discussing the production and management of tobacco at ten different meetings with an attendance of 661, and classing tobacco seed at nine different places for 270 individuals. He also started three demonstrations for the purpose of teaching the proper method of planting, fertilizing and harvesting, but was unable to report the results obtained, as he severed his relations with the Agronomy Department, July 1, before the tobacco crop was harvested. He prepared the copy for a flue-cured tobacco extension bulletin, a part of which was done after his resignation. This bulletin has not been published, but will be early in 1935.

Dark-Fired: Mr. Anderson reports that his work consisted of discussing fertilization and other methods of improving the yield, as well as the quality of dark-fired tobacco, and assisting with the AAA program in Appomattox county. He spoke at 29 meetings with an attendance of 1255 farmers, in the following counties: Appomattox, Amelia, Charlotte, Campbell, Bedford, Buckingham and Prince Edward. He also prepared the material for a dark-fired tobacco extension bulletin which will be published in 1935.

Good Seed Project

As usual the Good Seed project has been sponsored through the Virginia Crop Improvement Association, with the cooperation of county agents, vocational agricultural instructors, 4-H club members, the Vegetable Gardening department, seedsmen, and the State Seed Testing Laboratory of the State Department of Agriculture.



Counties in color are those in which good seed work was done in 1934.

Seed has been produced by the members of the Virginia Crop Improvement Association, and field and bin inspected, and certified after the inspections were made by the field agent of the Association, under the supervision of the Agronomy department.

The foregoing map shows the counties in which crops were inspected and demonstrations conducted. It is realized that if the crops were grown in a more concentrated area that the cost of certification would be lower, but it is felt that the effectiveness of the work would be much less. The Association has kept in mind at all times its purpose to make available a large supply of quality seed for the Virginia farmers, and teaching the use of same. It is felt that the production over a wide area educates more farmers as to its value and makes the seed more easily available to them. It would seem that the added cost of inspections is therefore justified.

In the tables below is set forth the amount of seed inspected and certified during the year.

1933 Fall Crops Min Inspected in 1934

Crop	Bushels inspec.	Bushels certified	Bushels rejected	Percent passed	Percent rejected	Bushels handled by seedsmen	Percent handled by seedsmen
Corn	8515	4815	700	88	12	2985	58
Cotton	219	219	0	100	0	129	58
Soybeans	70	70	0	100	0	70	100
Sweet potatoes	9385	9000	385	96	34	0	0
Irish potatoes	1090	380	710	33 1/3	44 2/3	0	0
Total	18719	14884	1795	89	11	3084	35
Korean lespedeza (pounds)	25717	16482	9235	65	35	0	0
Lespedeza sericea (pounds)	12975	8111	4764	65	34	0	0
	38692	24593	13999	64	36	0	0

Sweet Potato Bed Inspections Spring 1934

Beds inspec.	Beds passed	Beds rejected	Beds bedded	Plants sold
73	67	6	1826	1,369,000

Field Inspection 1934 Small Grain

Crop	Acres inspec.	Acres passed	Acres rejected	Percent passed	Percent rejected
Abruzzi rye	538	538	0	100	0
Barley	153	118	35	78	22
Wheat	563	348	215	44	56
Oats	59	59	0	100	0
Total	1313	963	350	74	26

Bin Inspection Small Grain 1934

Crop	Bushels inspec.	Bushels certified	Bushels rejected	Percent certified	Percent rejected	Bushels handled by seedsmen	Percent handled by seedsmen
Abruzzi rye	6715	4112	2601	62	38	2909	43
Barley	2050	1980	070	61	19	400	20
Wheat	4216	3738	478	89	10	2038	29
Oats	1354	891	463	66	34	880	25
Total	14334	10152	4182	70	30	6026	42

Field Inspection Fall Crops 1934

Crop	Acres inspec.	Acres passed	Acres rejected	Percent passed	Percent rejected
Corn	961	861	100	89	11
Korean lespedeza	235	235	0	100	0
Lespedeza sericea	30	30	0	100	0
Soybeans	144	144	0	100	0
Cotton	59	59	0	100	0
Sweet potatoes	142	136	6	96	4
Irish potatoes	47	43	4	91	9
Total	1618	1508	110	93	7

The greatest value of the certification of seed in the foregoing tables is not the increased income to the producers of the seed, but in the large amount of quality seed made available for the use of the average farmer which will help him increase his yields of a better quality crop, and thereby reduce his cost of production. It is of interest to note however, the increased income to the certified growers. Even at the very low increases average prices received for certified seed of 75¢ for corn, 50¢ for cotton, 15¢ for soybeans and wheat, and 25¢ for Irish potatoes, oats, barley and rye, these growers received a total increased income of $5,905.75.

At the conservative average price of $1.00 per bushel for certified sweet potato seed, the growers of slip seed received an income of $8,047.00; while the 1,580,000 draws which were sold for $1.54 per thousand increased their income $2,145.50, making a total income from certified sweet potatoes of $11,192.50. In addition to the potatoes and slips sold these growers bedded on their own farms 1,036 bushels of seed, and used 2,300,000 draws for their own use.

Demonstrations

Six bushels of certified seed corn was furnished twelve county agents last spring for the purpose of having it tested against their farmers' own seed. The results of these demonstrations will be found on page 11.

Results of Certified Seed Corn Demonstrations

Boone County

County	Yield demonstr. bushels	Yield check bushels	Difference bushels
Westmoreland	37	28.5	8.5
Lancaster	28	25	3
Lancaster	50.5	40	9.5
Goochland	0	0	6.5
Rockbridge	21	29	-8
Fauquier	24	27	-3
Fauquier	53	50	3
Princess Anne	40	27.5	12.5
Average	37.6	34.2	3.4

Reids Yellow Dent

Lancaster	52	42	10
Isle of Wight	0	0	8
Page	28	20	8
Page	47	36	11
Page	41	33	8
Rockbridge	32	27	5
Fauquier	58	50	8
Princess Anne	0	0	8
Halifax	32	24	8
Greensville	45	28	17
Average	29.6	21	7.9

Golden Queen

Westmoreland	45	40	5
Patrick	32	24	8
Patrick	28	20	8
Average	35	28	7

Average All Varieties Tested

Variety	No. demonstr.	Ave. yield cert. seed bus.	Ave. yield farmers seed. bus.	Ave. difference bus.	Range bus.
Boone County	9	37.6	34.2	3.4	-8 to plus 12.5
Reids Yellow Dent	10	29.6	21	7.9	plus 8 to plus 17
Golden Queen	3	35.0	28	7.0	plus 5 to plus 8
		37.4	31.2	6.7	-8 to plus 17

It can be seen from the tables that the reports from ten of the twelve county agents that certified seed gave an average increase of 6.1 bushels per acre, or 19.6%. These results compare favorably with the increases obtained with certified seed in previous years. The increases obtained were: 1931, 6 bushels; 1932, 4 bushels; 1933, 6.1 bushels.

We have felt that the demonstrations referred to above are one of the best means of teaching the value of good seed corn, and it seems that our opinion is justified by reports from some county agents. For instance C. H. Clark of Page county says:

> "We obtained the following results: W. Hunter Huffman, 30 bushels per acre with his own seed, 38 bushels from certified seed; J. A. Brubaker, 36 bushels from his own seed, 47 bushels from certified seed; J. Kemper Burner, 33 bushels from his own seed, 41 bushels from certified seed. These demonstrations have done a great deal to show the possibilities from using good seed and the farmers of the communities appreciate your furnishing the seed and are now interested in buying considerable improved seed corn for 1933."

See Exhibit D.

County Agent Hall also reports that the certified Reids Yellow Dent corn furnished him yielded 33% more than the farmer's seed.

Other good seed work consisted of visiting good seed demonstrations in six counties, helping County Agent Cox in conducting a junior judging contest at Harrisonburg, with 470 boys taking part; attending a meeting of the executive committee of the Association in Richmond for the purpose of looking after the state appropriation for the Association; and holding a meeting of the James River Corn Growers Association for the purpose of standardizing the silage corn being produced by members of the association.

The program and premium list of the State Seed Show was prepared and published, and 4000 copies distributed. News articles and radio talks giving publicity to the show were prepared. The Show and Convention of the Association was held in Lynchburg, January 24-25, 1934 with over 450 exhibits, and an average attendance each day of about four hundred. Adult and junior judging contests were sponsored in connection with the show, with100 juniors, and 31 adults taking part in the contests. The program will be found as Exhibit E. A copy of District Agent Bruce's letter about the show will be found as Exhibit F.

The facilities offered by Hopewell for holding the Show and Convention in January 1935 were inspected before accepting their invitation. A meeting of county agents, vocational teachers, and business men was attended in Hopewell for the purpose of making preliminary plans for the show. A meeting was also attended of the agent and teachers in Prince George county, where Hopewell is located, for the purpose of making more definite plans for the show. The program and premium list for this show has been prepared and 4000 copies will be distributed during December. In addition, radio talks have been prepared and given, and news articles published giving publicity to the show and convention.

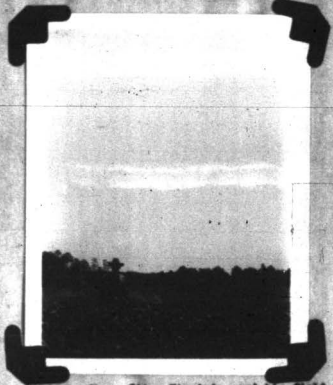
Mr. Grubbs, who has been with us only since September 15, has made a survey to determine the amount of lespedeza seed in the territory around Appomattox and has found that there is over 225,000 pounds of seed. With this in view he and the agents in that section are developing plans to put in a cleaner at Appomattox. It looks now as if the machine will be ready for work by the early part of the year.

County fairs were judged at Chesterfield, Halifax, Franklin, Roanoke, Botetourt and Surry; an FFA show was also judged at Lynchburg.

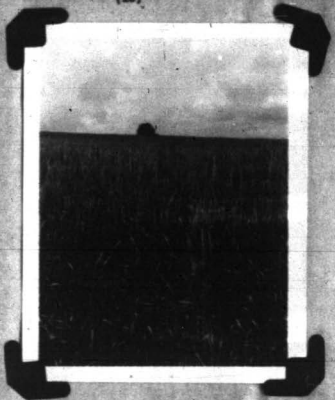
The subjects of radio talks and news articles will be found as Exhibit G; and Mr. H. H. Williams' reaction to one of the Extension Division News articles as Exhibit H.

A few pictures illustrating certified crops will be found on the following pages:

A close up view of one of the beds in the foregoing picture. Notice the vigorous growth of the plants.



C. B. Robertson, Chase City, Virginia, and his field of certified Virginia Hooded barley.

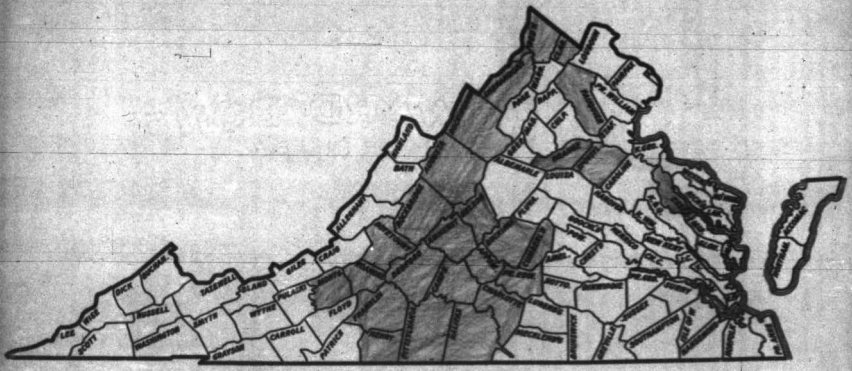


Field of certified Forward wheat produced by H. H. Willis, Culpeper, Virginia.

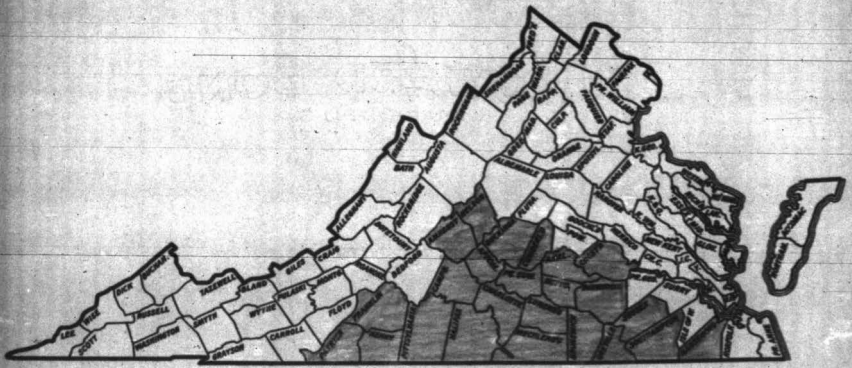
Certified sericea produced by H. P. Taylor in Chesterfield county, Virginia.

Certified Korean lespedeza produced by Emmett Beazley, Caroline county. This 10-acre field yielded 7842 pounds of seed.

Certified soybeans produced by Reuben Rolph, Sparta, Va.



Counties in color are those in which work was done on the AAA Wheat program in 1934.



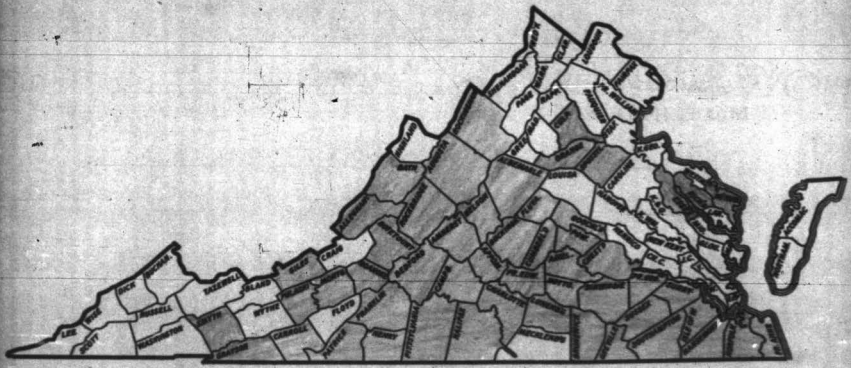
Counties in color are those in which work was done on the AAA Tobacco Program in 1934.

AAA Programs

Our part in the AAA programs consisted largely of assisting with the educational and sign-up campaigns, organizing associations, instructing county agents and committees in the use of forms, adjusting contracts, and compliance, and in training the office forces.

Wheat: A conference of state workers was attended at which representatives of the Wheat Section discussed the program. At intervals conferences of state workers were attended for the purpose of unifying the work which we were doing. County agents and allotment committees were instructed in the use of forms. District meetings were held at Staunton, Harrisonburg, Woodstock, Warrenton, Orange, Farmville, Fredericksburg and Tappahannock. The purpose of these meetings was to instruct the agents, committeemen and supervisors in measuring the wheat and contracted acres, and in the use of the compliance forms. Compliance was supervised by visiting the county offices of the associations. A state map will be found preceeding this discussion which illustrates the counties in which wheat work was done.

Tobacco: A state meeting of county agents, committeemen, and state workers was attended in Farmville where a representative of the Tobacco Section discussed the dark-fired tobacco contract and the organization of county associations. County agents were assisted in organizing their board of directors in Pittsylvania, Franklin, Prince Edward, Charlotte and Campbell counties. The Allotment committees were instructed in the use of forms and measurements and compliance. Two state meetings were attended at South Boston on the flue-cured program, at which a representative of the Washington office discussed the flue-cured program. We assisted with the organization of flue-cured committees in Halifax, Pittsylvania, Charlotte, Prince Edward, Henry, Franklin, Campbell, Mecklenburg and Brunswick counties. The committees, agents



Counties in color are those in which AAA Corn-Hog work was done in 1934.

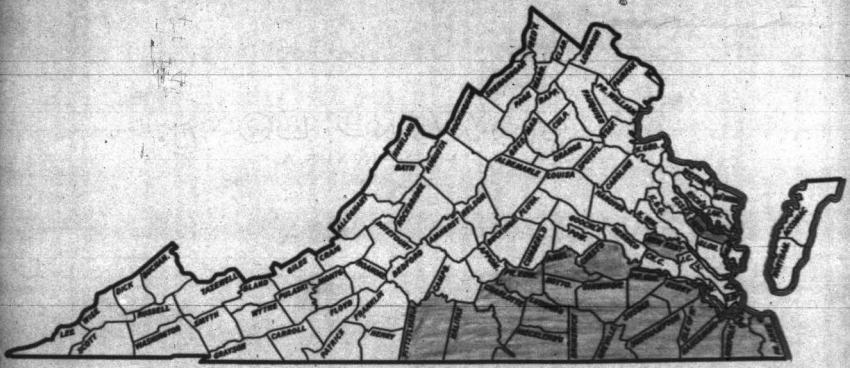
and supervisors were given instructions in the use of forms, measuring and other compliance in Halifax, Charlotte, Lunenburg, Dinwiddie and Prince Edward. The state map previous to this discussion will illustrate the counties in which assistance was given with the tobacco program.

Corn-Hog: We assisted with the educational and signup campaigns in the state after which we helped with the organization of the board of directors in Charlotte, Halifax, Pittsylvania, Henry, Franklin, Nelson, Cumberland, Fluvanna, Buckingham, Alleghany, Campbell, Augusta, Princess Anne, Norfolk, Nansemond, Southampton, Sussex, Surry, Isle of Wight, Greensville, Prince George, Nottoway, Amelia, Dinwiddie, Brunswick and Lunenburg.

We instructed the allotment committees and county agents how to fill in contracts and other forms, and how the appraisal of corn acreage should be made; also assisted in making adjustments in the contracts and compliance forms; held district conferences of county agents, supervisors and committeemen, and gave instructions as to measuring corn, counting hogs, and executing compliance forms; and assisted in the general supervision and checking of compliance. A regional meeting was attended in Atlanta, Georgia, at which time the Corn-Hog referendum was discussed by representatives from Washington, after which district meetings were held at Harrisonburg, Blackstone and Marion for the purpose of informing county agents and members of the association on, "The present economic situation and what may be expected in the future without the corn-hog program". The plan for conducting the referendum was also outlined.

Cotton: Mr. Daughtrey has this to say about the AAA Cotton program in the state:

> "The cotton program has consumed about 40% of my time this year when the contract sign-up, compliance and issuance of the Bankhead tax exemption certificates are taken into consideration. There were 4,560 cotton contracts signed representing 60,275 acres and a production of 16,688,480 pounds of lint. The contract signers rented an average of 88.90% of the base acreage to the Secretary of Agriculture, which



Counties in color are those in which work has been done on the AAA Cotton and Peanut programs in 1934.

represents a rental payment to Virginia growers of approximately $803,860. and a parity payment of approximately $66,814. giving a total received by the signers of the contract in rental and parity payments for the year 1934 of $869,674.

Under the Bankhead Act tax exemption certificates were issued to 15,909 individuals representing 15,811,800 pounds of lint.

I also served as a member of the State Cotton Board."

Peanuts: Mr. Doughtrey has also been placed in charge of the AAA Peanut program in the state, and reports as follows:

"Work on peanuts up to November 30 was confined to conferences in formulating the program and some educational work in the peanut counties. It is expected that the campaign will be launched between now and December 15, or as soon as all material is available."

Outlook for 1935

Assistance will be continued with the AAA programs. As much time as is available will be devoted to the same regular projects that were carried in 1934. However, we plan to change our method of handling them. It will be impossible to say what the change will be until after the annual agents' meeting in January.

Statistical Summary

	Byrne	Daughtrey	Grubbs	Harvey	Anderson	Copley	Obenshain	Hutcheson	Total
Days in -									
Field	200	212	35	77		17	27	23	591
Office	100	98	17	132		6	0	0	347
Leave	10	6	4	5					25
Agents visited	152	202	8		7	4	5	8	386
Extension Com. meetings	44	28						5	77
Attendance	358	462						60	880
Other meetings	80	76	4		29	10	8	7	214
Attendance	2157	3640	60		1855	461	200	2050	10601
Letters	2297	475	127	365	157	25	42	0	3446
Circular letters	13	5	1	6			1		26
Copies	1540	65	100	365			350		2420
Bulletins sent out	4042	22	4				59		4127
Miles- auto	18236	25418	5482	9370	1827	946	2602	4340	65921
Miles- train	2000	10405						650	13055
Counties without agents visited	2	1	1						4

Division of Time

Percent of time to different projects

	Byrne	Daughtrey	Grubbs & Harvey	Anderson	Copley	Obenshain	Hutcheson
Soil improvement	2	0	0	0	0	100	75
Good seed	18	10	95	0	0	0	25
Tobacco	0	0	0	100	100	0	0
AAA programs							
Wheat	9	2	0	0	0	0	0
Corn-Hog	45	20	0	0	0	0	0
Tobacco	15	24	0	0	0	0	0
Cotton	0	40	0	0	0	0	0
Peanuts	0	4	0	0	0	0	0
Total time on AAA.	67	86	0	0	0	0	0
Miscellaneous	13	0	5	0	0	0	0

Exhibit A.

COPY

Blacksburg, Virginia.
August 30, 1934

Col. W. S. Battle,
Norfolk & Western Railway Company,
Roanoke, Virginia.

Dear Colonel Battle:

I am enclosing a rough outline of your farm, and a copy of the rotation which I am suggesting that Mr. Draper put into practice. I have not attempted to sketch the accurate shape of the fields nor illustrate the size of each. The sketch is simply a means to identify the different fields.

You will note that I have identified the fields with numerals from 1 to 10. You will note further that I have not included any tobacco in the rotation. I understood from Mr. Draper that he could clear enough new ground for the small tobacco crop which he grows. By clearing a small amount of land each year he can soon have three fields in which he can use the following rotation: tobacco, small grain and clover.

I have not attempted to list the crops in field #6, as I have done the other fields because I am afraid that so many figures might confuse you. The crops to be grown in this field can be located on the attached sheet giving the rotation.

The first thing that should be done is to apply about 2 tons of ground limestone or its equivalent per acre on all of the fields to be cultivated. The 13 acres in field #6 should be covered first since this is the field that will have clover, grass and alfalfa on it before any of the other fields. The part of this field which is to be put in alfalfa should receive 4 tons of ground limestone instead of 2 tons per acre. Fields 4 and 5 should be the next fields limed. Of course, if all of the fields can be limed this fall it does not make any difference which field is limed first. I might say here that it will be useless to sow any of the grass mixtures which contain clover that I am going to suggest without first liming the land.

About 300 lbs. of 4-14-4 or 4-16-4 fertilizer per acre should be used on all of the wheat, barley and rye that is seeded this fall, and an equal amount of the same fertilizer used on the corn that is planted next spring.

Fields 1 and 3: Sow 5 or 6 pecks per acre of wheat this fall. At the same time that the wheat is seeded sow 5 lbs. of Kerds grass, and in the spring between March 20 and April 5, sow 15 lbs. of Korean lespedeza per acre on top of the wheat and cover only lightly, if at all. This lespedeza and Kerds grass will be turned under in the early spring of 1936 for corn that year. However, it should be possible for some lespedeza seed to be harvested in the fall of 1935.

Col. W. S. Battle
#2

Fields 4 and 5: Sow 6 packs of Abruzzi rye early this fall. This rye is to be turned under in the spring of 1936 for corn. It will also afford some late fall and early spring pasture. Be sure that you sow Abruzzi rye, as it is 10 days to 2 weeks earlier and makes a much more vigorous growth than any of the other varieties.

Field 6: Sow 1½ bushels of barley per acre on all of the land in this field which is in corn, peas and tobacco, which totals about 13 acres. When seeding the barley also sow 10 lbs. of tall oat grass and 5 lbs. of Hardo grass, on all of the land which is not to be seeded to alfalfa. In the spring about the middle of March sow 8 lbs. of Little Red clover and 5 lbs. of Korean lespedeza. I am suggesting that you sow only 3 acres of alfalfa, therefore, you should have about 10 acres in this field to sow in the mixture just mentioned. In the spring about the same time that you sow the clover, seed 20 lbs. of Kansas or Highland Utah alfalfa seed, and 5 lbs. of Little Red clover on the 3 acres of barley which was not seeded with the grass mixture. I would suggest also that you sow about 400 lbs. per acre of 4-12-4 or 4-16-4 fertilizer on the barley in the spring just previous to seeding the alfalfa. In addition to the lime which is put on the land this fall where the alfalfa is to be seeded, sow as much lime in the drill at the time of seeding the alfalfa as it will sow. The 12 or 15 acres in sassafras bushes to be cleared this fall or winter should be sown in peas or soybeans next spring in order to furnish hay for the livestock in the fall and winter of 1935-36. In the fall of 1935 this land could be sown in rye and the following spring to Hardo grass and lespedeza (8 lbs. Hardo grass, and 15 lbs. lespedeza per acre) and thereafter worked to the best advantage in the rotation that you already have established. I am leaving the 3-acre rye stubble on the upper side of this field for your peach orchard. If you do not use it for this purpose it can be seeded to barley and clover just as the other portion of the field.

Pasture: When it is convenient either this fall or next spring, I would apply about 1 ton of ground limestone per acre on pasture fields 7, 8 and 9. In the spring I would sow 300 lbs. of 16% superphosphate, and 8 lbs. of Korean lespedeza on fields 7 and 8. On field 9 I would sow 8 lbs. of Korean lespedeza, and about 300 lbs. of a 4-16-4 or 4-12-4 fertilizer per acre. This should give you a pretty green field around your lake.

If you do not understand thoroughly the suggestions I have made, kindly write me so that I can make myself clear.

I trust that you will find the outlined plan satisfactory.

Very truly yours,

H. H. Byrne
Extension Agronomist VPI

WHB-bs
Uncle.

Col. W. S. Battle's Farm

Fields and Crops

Field 1 - 8 acres

1934 tobacco
1934 seeded to wheat and herds grass in fall, and lespedeza in spring
1935 wheat
1936 lespedeza plowed under for corn
1937 small grain
1938 clover and grass
1939 corn

Field 2 - 5 acres

1934 lespedeza and orchard grass
1935 lespedeza and orchard grass
1936 corn
1937 small grain
1938 clover and grass
1939 corn

Field 3 - 6 acres

1934 corn
1935 wheat and herds grass in fall, and lespedeza in spring
1936 corn
1937 small grain
1938 clover and grass
1939 corn

Fields 4 and 5 - 11 acres

1934 wheat
1934 seed to Abruzzi rye in fall
1935 corn
1936 small grain
1937 clover and grass
1938 corn
1939 small grain

Field 6 - 25 acres

1934 eight acres in corn, 4 acres in peas, 1 acre in tobacco, 12 acres in bushes.
1934 thirteen acres seeded to barley, 10 acres with grass also.
1935 barley with 10 acres seeded to clover in spring
1935 three acres seeded to alfalfa
1936 clover and grass
1937 corn
1938 small grain
1939 clover and grass

Exhibit B.

Subjects of Extension Division News Articles in 1924

December	Preliminary premium list of the State Grain Show.
January	The Annual State Corn and Grain Show.
February	----------
March	Preparation of the Seed Bed.
April	Plan before Planting.
May	Plant Adapted Varieties of Crops.
June	Timely Suggestions - Improve your Small Grain Yield. Harvesting and Curing Hay.
July	Fertilizer for Small Grain.
August	Harvesting and Curing Soybean Hay. Start the Grain Crop Right by using Good Seed.
September	What is your Rotation, and Why? Notes - Consider Fall Plowing - It Pays.
October	State Seed Show Preliminary Premium List.
November	Good Seed as a Factor in Economical Crop Production.

Exhibit C.

Radio Talks December 1, 1933 to November 30, 1934

December 1	The Annual State Grain Show	W. H. Byrne
December 7	Some Important Winter Jobs	W. H. Byrne
December 7	Utilization of Straw and Corn Fodder	W. H. Byrne
January 3	State Corn and Grain Show	R. C. Harvey
January 5	What Can a Farmer do with his spare Time?	T. B. Hutcheson
January 11	Some Interesting Features of the State Grain Show	R. C. Harvey
February 9	The Place of Legumes in Virginia Agriculture	W. H. Byrne
March 9	Crops to Provide for Summer Feeding and Next Year's Roughage	M. S. Kipps
April 6	Plant Adapted Varieties of Crops	W. H. Byrne
April 6	Preparation of the Seed Bed	R. C. Harvey
April 6	Some Essentials in Producing Maximum Crops of Corn	R. C. Harvey
June 1	Improving Small Grains by Selection	W. H. Daughtrey
June 1	The Value of Corn Cultivation	R. C. Harvey
July 13	Summer Seeding of Grasses and Clovers	W. H. Byrne
July 13	Threshing and Storing Grain	R. C. Harvey
August 3	Maintenance of Organic Matter	W. H. Byrne
Sept. 7	Harvesting Soybeans for Hay and Seed	W. H. Daughtrey
Sept. 7	Seeding Small Grain	W. H. Byrne
October 5	The Care and Use of Farm Manures	W. H. Daughtrey
October 5	Annual State Seed Show	W. H. Byrne
November 2	State Seed Show	W. H. Byrne
November 2	Spring Seeded Alfalfa	W. H. Byrne

Exhibit B.

Subjects of Articles furnished County Agent O. R. Mathews for his County Paper.

Barley as a Grain Crop.

Do not leave your Soil bare this Winter.

Early seeding of Small Grain.

Selling and Buying Small Grain for Seed.

Exhibit E

Program for Agronomy Section

Farmers' Institute

July 31 to August 8 1934

9:00 a. m. Relation of soil survey to Virginia Agriculture - W. E. Hearn, Inspector, Bureau of Chemistry and Soils, U.S.D.A.

9:30 a. m. Lime and fertilizers - Dr. H. A. Pettinger, Agronomist.

10:00 a. m. Legumes as soil builders - T. B. Hutcheson, Agronomist.

10:30 a. m. Visit to Agronomy Experimental plots.

Exhibit F.

Program

Wednesday, January 24, 1934

8:00 p. m. Meeting of Board of Directors.

Thursday, January 25, 1934

Forenoon Session

10:00 Address of Welcome - Mayor John Victor, Lynchburg, Va.

10:15 Response - F. H. Cole, Sparta, Va., President, Va. Crop Improvement Association.

10:30 What may be expected from the Administration Recovery Program? - Chester C. Davis, Director, Production Division, Agricultural Adjustment Administration, Washington, D. C.

11:15 Making the National Tobacco Program a Success - Jno. H. Hutcheson, Director of Extension, Blacksburg, Va.

12:00 Review of Commercial Exhibits.

12:15 Lunch.

Afternoon Session

1:30 Prevention of Erosion by Terracing - J. A. Waller, Agricultural Engineer, Extension Service, Blacksburg.

2:00 The Value of Certified Seed - E. H. Byrne, Extension Agronomist, Blacksburg.

2:30 Soil Building through the medium of Legumes - S. F. Grubbs, County Agent, Amherst, Va.

3:00 Review of Commercial Exhibits.

3:00 Adult Judging Contest (see rules page 14)

Evening Session

6:30 to 9:00 Banquet - James Godkin, Plant Pathology Department, Chairman, Blacksburg, Va.

Presentation of Sweepstakes pitcher by Wm. P. Wood, Jr., for T. W. Wood & Sons, Richmond, Va.

Presentation of medals to winners in adult judging contest by J. C. Bruce, District Agent, Culpeper, Va.

Friday, January 22, 1954

Forenoon Session

9:30 The Relation of Liming to Fertilizer Practices - Dr. H. A. Pettinger, Agronomist, Agricultural Experiment Station, Blacksburg, Va.

10:15 Vocational Agricultural Students and the Virginia Crop Improvement Association - Dr. W. S. Newman, Supervisor, Agricultural Education, State Board of Education, Richmond, Va.

11:00 Intelligent Use of Fertilizers - Prof. T. B. Butcheson, Agronomist, Virginia Polytechnic Institute, Blacksburg, Va.

11:45 Review of Commercial Exhibits.

12:30 Lunch.

Afternoon Session

1:30 Junior Judging Contest (see page 46 for Rules)

1:30 Meeting of Board of Directors.

5:30 Presentation of Junior Judging Medals - B. W. Wilkins, Vocational Instructor, Appomattox, Va.

Exhibit G.

(Copy)

Culpeper, Virginia.
December 30, 1933.

Dear County Agent:

I want to thank each of you for your most loyal support and excellent services which you have given to secure contracts from the dark-fired tobacco growers for the reduction in acreage of that crop.

My observation of the way you have handled this work has proven to me that no people engaged in any kind of work can show more cooperative spirit and action in handling a big problem than the county agents. May I commend you for your most excellent services in this work? I hope you will still be able to secure many signers to the contracts through your committees, and trust a way will be provided to protect the ones who sign against those who have not signed and others who begin growing tobacco next year.

There is danger of forgetting our extension program when we are rushed through so many campaigns as have been placed upon us recently. However, I desire to remind you of our agronomy program, because this is fundamentally the basis of all our work.

I am asking you to get to yourself for a few minutes and give serious thought to the needs of all kinds that you expect to recommend to the farmers in 1934. Think this over well. While you have in your employ stenographic help get out a letter to every grower of good seeds, beginning with corn and all other grains, the clovers and other grass seeds, tobacco seeds and garden seeds and remind them of the Grain Show of the Crop Improvement Association at Lynchburg, Virginia, January 25-26. Impress upon them the necessity of exhibiting these seeds at this show. We must get the cooperation of our farmers in this Crop Improvement Association work or our good seed program will be a failure. You know it is useless for us to attempt to improve the crop yields economically without first using the best and most adaptable seeds.

We must next make an effort to get a large number of farmers and others including the women to attend this exhibit or it will be a failure. There is no other source through whom the Crop Improvement Association can advertise this exhibit other than the county agents, the vocational teachers, the 4-H Club members and the schools which the club members and vocational pupils attend.

May we all do our best.

Very truly yours,

J. G. Bruce
District Agent

Exhibit B.

(Copy)

Luray, Virginia.
December 14, 1934

Mr. W. H. Byrne,
Extension Agronomist,
Blacksburg, Virginia.

Dear Mr. Byrne:

I am sorry to have delayed sending you the final reports on our seed corn demonstrations so long but it was necessary to wait until the crops had been harvested before measurements could be obtained.

We obtained the following results: W. Hunter Huffman, Shenandoah, 30 bushels per acre with his own seed, 36 bushels from certified seed; J. A. Brubaker, Luray, 36 bushels from his own seed, 47 bushels from certified seed; J. Kemper Burner, Luray, 35 bushels from his own seed, 41 bushels from certified seed.

These demonstrations have done a great deal to show the possibilities from using good seed and the farmers of the communities appreciate your furnishing the seed and are now interested in buying considerable improved seed corn for 1935.

Very truly yours,

C. H. Clark
County Agent

Exhibit I.

(Copy)

THE KOPPERS COAL AND TRANSPORTATION CO.

Pittsburgh, Pa.

December 10, 1934.

Extension Division News,
Blacksburg, Virginia.

Gentlemen:

I read with interest in the last copy of your publication the article on the use of Certified seed and I will appreciate it if you will advise me where such seed may be obtained, particularly wheat, corn, red clover and alfalfa.

I have a farm in Clarke county, Virginia, and am interested in building it up to the best possible productive capacity.

Very truly yours,

J. P. Williams, Jr.