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**Some of the Results of Instruction
in Vocational Agriculture
in Virginia and of the
Activities of Departments in Their Communities**

Submitted as Major Thesis

by

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ments in Their Communities.

I Introduction

This study is made to determine as far as available statistics and data will permit:- first, What are some of the results of Vocational instruction in agriculture in Virginia: second, What are some of the influences which departments have had on the general welfare of the communities in which they have been located.

Federal aid for the promotion of agricultural education began in 1862 when the United States Department of Agriculture was established. The Land Grant Act, establishing a system of State Agricultural Colleges, was passed at that time and started a country-wide system of agricultural education supported in part by federal funds. Appropriations have increased and the work has been extended by a series of acts passed since then. These acts provided for federal aid to promote instruction in agriculture in schools of college grade only. There followed similar action in promoting investigation, then the carrying out of such information through printed page and personal service agricultural knowledge to the farmer. It was not, however, until 1917 that vocational instruction in agriculture was made more available for the farmer boy.

The national vocational education act approved Feb. 23, 1917 initiated a plan of agricultural education of less than college grade. As a result of this act Vocational Agri-

cultural Schools have been established in almost three-fourths of the counties in the State of Virginia, and they are increasing about as rapidly as the appropriations from public funds will permit, there being eighty organized departments in the state last year.

The only type of school which was utilized at first was the all-day school, which provided vocational agricultural education for the school youths. Part-time and evening schools have now developed to meet the needs of adults and of the youth outside of the regular all-day schools. This rapid growth and development indicates that this work is gaining in popularity and is to some extent meeting an important need. But very little concrete evidence has been presented to show the effectiveness of vocational agricultural instruction in Virginia, hence this study is made.

II Procedure followed

A careful analysis of the supervised home practice work of students in vocational agriculture was made by studying all the reports of the past three years (1923-1924-1925). Every department must render annually a detailed report on the supervised farming of every student to the State Board of Education. These were studied in the office of the state supervisor of vocational agriculture and Teacher Training Department at Blacksburg. A detailed study was made of the principal crops grown in Virginia, namely: corn, wheat, white potatoes, tobacco, cotton, sweet potatoes, peanuts, soy beans and tomatoes. Live stock production was not included, because of the difficulty

of securing the comparative data necessary. Most live stock enterprises require a larger period of time to show improvements brought about, than do plant production enterprises. Apples are important, but were not included because of the limited number of enterprises carried by students and so many of these were in the nature of home orchards the figures of which are not comparable with the state commercial figures.

Very careful calculations were made to secure the following data:- 1. Average scope or acreage of these crops per student. 2. Yields per acre. 3. Labor income (operator's income) per acre. 4. Average hours devoted to the crops per enterprise.

This same data was then obtained for the communities or counties in which the schools are located and for the entire state as a whole. The data for farmers outside of that for yields was secured from varying sources and in various ways. The sources were as follows:-

1. "Virginia Farm Statistics" for 1923, 1924 and 1925.
2. "Crops and Markets" for June, 1926.
3. Circular #340 of U. S. Department of Agriculture.
4. Bulletin #908, separate from Year Book 1924 U. S. Dept. of Agriculture.
5. V.P.I. Extension Bulletin #96.
6. U. S. Dept. of Commerce Bureau of the Census, State Compendium for Virginia, 1925.
7. Replies to enquiries sent the following agricultural instructors:- Mr. N. R. Patrick, Fincastle, Va. & Mr. G.C. Frayser, Cumberland, Va.

8. The following gave advice in selecting and interpreting data:- Dr. T. K. Wolfe, Professor of Agronomy, and Agronomist, Agricultural Experiment Station, V.P.I.; Mr. J. J. Vernon, Agricultural Economist, V.P.I.; Mr. E. C. Magill, Professor of Agricultural Education, V.P.I.; Mr. H. W. Sanders, Assistant Professor of Agricultural Education, V.P.I.; Mr. Dabney S. Lancaster, Secretary State Board of Education and Mr. J. E. Brame, Agricultural Instructor at Chase City High School.

Averages made by the students were then compared with those made by the farmers on both a county and a state wide basis so far as could be obtained. No statistics involving hours the farmer spent on his crops could be obtained, and data on labor income was very incomplete.

Questionnaire was formulated to secure information as to the community activities of agricultural instructors and services rendered. This was accompanied by a letter written by Mr. D. S. Lancaster, who was State Supervisor of Vocational Agricultural Education, requesting cooperation in answering the questions. These were sent to each instructor of vocational agriculture in the state February, 1925. Replies were received from approximately 80% of the instructors. The questionnaire follows:-

Teacher of Vocational Agriculture:

Your cooperation is requested to the extent of answering the following questions:

1. What organizations (business, social) exist in your community? (Make list as complete as possible.)

2. After making this list, place an "M" after the name of the organization if you or the instructors who have preceded you, are or were, members of the organization.

Place an "o" after the name if you or predecessors were instrumental in perfecting the organizations.

If you or your predecessors now hold office or have held office in the organization, place the name of the office held after the name of the organization.

3. What outstanding improvements (in your opinion) have been brought about by the agricultural department since its installation? (Consider social, recreational and economic improvements as well as farm practices.)

Very truly yours,

Answers to questionnaire were as good as might be expected, but the vagueness and meagerness of the information received from some of the instructors made it very difficult to tabulate.

Outstanding improvements and the activities of the instructors were tabulated so far as instructors gave them. The work accomplished by some of the part-time and evening schools in 1925 as shown by reports at the office of the State Supervisor and Teacher Training Department was also summarized.

"Some Shortcomings and Possible Errors"

Statistics received from final reports of students were carefully checked when results seemed unreasonable or wrong, but these reports had been checked by the State Supervisor and were therefore quite reliable.

Labor income may appear a little high in some cases when compared with yield and prevailing prices. This may be due to some expense items being omitted because of a lenient contract with his father. For example, rent on land, use of machinery, use of storage buildings and some miscellaneous items of this character are not always considered in the contract. Most agricultural instructors, however, would not permit these things to be entirely overlooked.

Labor income for the farmer was obtained by adding to the net profit per acre as gotten from bulletins previously mentioned; the cost of preparing, planting, cultivating (when necessary) and one-half the harvesting of the crop.

These operations are usually done by the farmer, excepting the harvesting, which requires a large amount of hired labor as a rule, hence this method of computing labor income was adopted. It will be noticed that almost 50% of the total cost of raising the crop has been added to net profit to secure this labor income figure for the farmer. This is practically equivalent to the operator's income for the average farmer. This procedure was necessary to make the comparison of the boy with the farmer a fair one.

If anything, the figures in this study of labor income are in favor of the farmer. This however, would have a tendency to offset any errors which the student may have made in getting his labor income by giving the farmer a liberal figure for his income. The writers of these bulletins acknowledge that their statistics are probably received from commercial areas rather than non-commercial areas. As an illustration, the corn figures are more largely from corn producing areas. The better farmers more largely furnish the data for the corn than the poor corn growers, yet the boys' figures represent the total of all students' production, good or poor. This would also be in favor of the farmers' figures.

Yields were given in units peculiar to the locality of the students in some instances and it was difficult to ascertain what figure to use in reducing to standard units as used by the statisticians. Every reasonable effort was made to secure the correct figure, and the reduction figure used has been given in each case.

Why These Crops and Enterprises were Studied.

The crops studied are ranked by Virginia Farm Statistics as the principal crops of the state, eight of them being among the first nine. The order of rank of the first nine according to value are:- corn, tobacco, hay, potatoes, wheat, apples, cotton, peanuts and sweet potatoes. Boys conduct enterprises in these, also while they do not conduct so many in some other crops. Tomatoes are growing in importance as a truck crop and are used for canning purposes in the state to a great extent, although they are not ranked with these crops. It would also be difficult, if not impossible to secure comparative data on apples and animal products for reasons previously mentioned.

The tabulations in Evening School work were from several of the outstanding evening schools of the state, as observed in final reports to State Office. Much excellent work is being accomplished in other localities, and these are cited as typical examples of some of the good work which is in progress in all parts of the state.

Effect of Instruction on Corn Production

Table I gives data for Corn.

Students' figures on corn were obtained from corn enterprises found in final reports at State Supervisor and Teacher Trainer's Office.

All reports from the schools of a county were assembled and total enterprises, acreage, yields and hours on corn for the schools of that county were found. County

averages were computed from these figures. State averages were secured by summing the totals of the counties and making similar computations as was done for county averages. Where yields were given in barrels, they were reduced to bushels by multiplying by five. Yields for farmers were obtained from "Virginia Farm Statistics" for 1923, 1924, and 1925.

Acreage or scope was obtained from U. S. Department of Commerce "Bureau of the Census" figures for 1919, which, it is assumed, have not materially changed since then. The scope for the counties could not be obtained, hence only the scope for the state is given.

Labor income was gotten by using figures found in "U. S. Dep't circular 340", "Crops and Markets" for June, 1926, and "Virginia Farm Statistics" for 1925.

Net profit per acre was found by deducting net cost per acre from market price. To the net profit per acre was added cost of preparing, planting, cultivating and one-half harvesting, thus securing the figure for the farmers average, labor income for the state. One-year, two-year and three-year averages were obtained for the state and the comparisons made with students' figures as shown, according to whether they were for one, two or three years. It was practically impossible to make in comparisons on time to make a crop of corn. Where figures for the farmers exceeded those for the student, the excess, where given, was tabulated negatively,

and indicated by a minus sign before it.

There were 809 corn enterprises in the state during the past three years embracing an area of more than 2400 acres of corn located in 59 counties. Four hundred forty-eight of these were conducted during 1925 with an average scope of a little more than three acres.

The average yield for the students is considerably more than that of the farmer in 93% of the cases. Their average production per acre is 51.2% greater than that of the farmer for the corresponding period.

The labor income of the student is exceedingly good, averaging 97% more than that of the farmer in 1925, 188% greater than the two-year average, and 110% greater than the farmer's three-year average.

There were more enterprises in 1925 than in either of the other years, hence that and the three-year average are probably more significant than the two-year average.

Since these figures are very conservative, as previously explained, the average student is evidently doing considerably better than the average farmer in corn production. It may be that he uses slightly better land than the average land. He is evidently using better seed, more scientific methods and doing better farming as a result of his instruction in vocational agriculture. The 50% gain in production over the farmer has meant more income to him, as would be expected so long as economical methods were employed.

The average labor income over the three-year period was approximately \$32.00 per acre. If this is multiplied by average scope and the result divided by average hours per enterprise, we obtain 52¢ per hour earnings, the student received for all the hours he and his hired help have worked on the enterprise. This is apparently a good income. The average time for the student to raise an acre of corn is approximately 54 hours.

It is reasonable to suppose that if the farmer had carried out the improved practices followed by the students that his labor income per acre would have been \$16.73 more than it was. Since there were approximately \$5,000,000 acres of corn raised in the state during these three years, the total increased labor income to the farmer would have been more than \$80,000,000 annually. This would be equivalent to almost double the average value of the corn crop which was raised during this three year period.

Effect of Instruction on Potato Production

Table II gives data for potatoes similar to that given on corn in Table I, consequently the same general explanations will apply. Statistics on labor income were not given by states as they were with corn, but by groups of states, and Virginia was included in the Eastern Group along with the states surrounding her, therefore the statistics are fairly typical of Virginia.

Where yields were given in barrels they were reduced to bushels by multiplying by $2 \frac{3}{4}$.

There was a total of 366 enterprises in potatoes distributed over 34 counties. It is interesting to note that the average scope for three years was about the same as that for the farmers. The total acreage last year was 174 and the scope a little more than one acre. The students' average yields were greater than the farmers' in 60% of the cases and their three year average yield was greater than the farmers' by 7.7%. The number of enterprises were greater in 1925 and the students' average labor income was greater than the farmers' by 20%, but the farmers' were slightly ahead of the students on the two and three year averages. This evidently means that the average potato farmer is using potatoes as his money crop and is consequently giving it more attention than the average farmer who raises corn gives his corn crop.

If a calculation is made to obtain earnings per hour similar to that made for corn we find 58¢ per hour earnings for the potato enterprises as a return to the student for the total number of hours spent on them by him and his hired help.

Returns from potatoes are somewhat better than returns from corn, but there are not so many enterprises.

It required an average of 107 hours to produce an acre of potatoes, and this figure was larger when the scope was small, as might be expected.

Effect of Instruction on Tobacco.

Table III gives data for tobacco similar to that given in preceding tables for corn and potatoes. Explanations are the same except statistics for labor income had to be derived from a different source. These figures were obtained from V.P.I. Extension Bulletin number 96 published in May, 1925. This bulletin gives a detailed record gotten from 33 bright tobacco farms and 46 dark tobacco farms in South Central Virginia in 1923.

These results were averaged and the average labor income calculated on these seventy-nine typical tobacco farms. The average wages earned by the 33 bright tobacco farms was \$44.10 per acre. The average wages earned by the 46 dark tobacco farmers \$105.60 per acre. The difference between this and the students' labor income for 1923 was obtained and the comparison recorded in table.

No two and three year averages were obtainable.

Tobacco is a very popular crop in certain sections of the state, and is grown by the students in twenty-one counties of the state. Two hundred seventy acres was raised by the students last year with an average scope of $1 \frac{1}{3}$ acres. Yields of students are greater than those of the farmers in $\frac{2}{3}$ of the cases, and the average production for the farmer is surpassed by the student 43%. The farmers' labor income for 1923 was \$76 per acre, while that of the student was \$119 per acre, which is 56.5% more.

TABLE III

Tobacco

| County | Schools | No. of enterprises | | | | Acreage or scope per Enterprise | | | | Yields per Acre | | | | | % incr. or decr. : student | Labor Income (Earnings) per Acre | | | | Hours or Labor Required per Enterprise | | | | | | | |
|--|---------|--------------------|-----------|------------|------------|---------------------------------|------------|------------|-------------|----------------------|------------|------------|---------------|----------------------|----------------------------|----------------------------------|------------|-----------|----------------|--|---------------|--------------|--------------|----------------------|------------|--------------|------|
| | | Tot. | '23 | '24 | '25 | Avg. 1, 2 or 3 years | '23 | '24 | '25 | Avg. 1, 2 or 3 years | '23 | 1924 | 1925 | Avg. 1, 2 or 3 years | | '23 | '24 | '25 | at with former | avg. 1, 2 or 3 years | 1923 | 1924 | 1925 | Avg. 1, 2 or 3 years | 1923 | 1924 | 1925 |
| Louisa - Apple Grove | | 4 | 9 | 2 | 2 | 1 | - | 1 | 1 | 770.2 | - | 760.5 | 780.0 | 687.5 | - | 695 | 680 | 12 | 89.88 | - | 69.66 | 110.10 | 226 | - | 176 | 276 | |
| Appomattox - Appomattox | | 19 | 7 | 5 | 7 | 1.3 | 1.4 | 1.2 | 1.5 | 879.9 | 928 | 1048.0 | 663.9 | 735.0 | 850 | 660 | 700 | 18 | 147.3 | 172.50 | 192.40 | 84.00 | 263.3 | 183 | 326 | 281 | |
| Amherst - Amherst | | 3 | - | - | 3 | 1.0 | - | - | 1.0 | 644.0 | - | 644.0 | 625.0 | - | - | 625 | 35 | 48.80 | - | - | 48.80 | 318.0 | - | - | 218 | | |
| Henry - Axton | | 11 | - | 3 | 8 | 1.3 | - | 1.0 | 1.5 | 667.1 | - | 665.0 | 709.3 | 585.0 | - | 550 | 620 | 17 | 99.14 | - | 95.39 | 102.90 | 300.6 | - | 229 | 372.3 | |
| Buckingham - Buckingham | | 20 | - | 10 | 10 | 1.4 | - | 1.5 | 1.3 | 600.05 | - | 604.5 | 595.6 | 735.0 | - | 820 | 650 | -22.0 | 90.62 | - | 103.45 | 77.80 | 236.1 | - | 260 | 212.5 | |
| Nottaway - Burkeville | | 16 | 4 | 5 | 7 | 1.4 | 1.5 | 1.5 | 1.3 | 769.5 | 766.7 | 762.0 | 760.0 | 743.3 | 760 | 740 | 730 | 3.5 | 100.85 | 116.33 | 119.52 | 68.70 | 514.9 | 564 | 370 | 295.9 | |
| Charlotte - Charlotte C.H. | | 18 | 12 | - | 6 | 2.18 | 2.7 | 2.7 | 1.6 | 609.3 | - | 621.0 | 597.7 | 610.0 | - | 640 | 580 | -11.0 | 59.71 | 63.00 | - | 56.43 | 251.9 | 292 | - | 221.7 | |
| Mecklenburg - Chase City | | 28 | 7 | 9 | 12 | 2.2 | 1.6 | 2.6 | 2.3 | 1035.1 | 1068.7 | 1070.6 | 966.0 | 650.0 | 660 | 630 | 660 | 59.0 | 139.74 | 200.97 | 158.26 | 60.06 | 499.9 | 233.44 | 679 | 587.2 | |
| Pittsylvania - Climax, pan River, Whitmell | | 72 | 18 | 22 | 32 | 1.38 | 1.4 | 1.3 | 1.45 | 670.8 | 642.0 | 661.0 | 709.4 | 593.3 | 670 | 585 | 535 | 13.0 | 90.37 | 127.00 | 89.00 | 56.12 | 313.7 | 275.0 | 272 | 394.2 | |
| Patrick - Critz | | 28 | 10 | 11 | 7 | 1.2 | 1.4 | 1.3 | 1.1 | 691.03 | 592.0 | 592.0 | 889.1 | 605.0 | 680 | 615 | 520 | 14.0 | 72.40 | 68.00 | 85.00 | 64.20 | 251.6 | 284.0 | 243 | 228.0 | |
| Cumberland - Cumberland | | 25 | - | 11 | 14 | 1.42 | - | 1.25 | 1.6 | 711.5 | - | 678.7 | 744.4 | 665.0 | 780 | 660 | 670 | 6.9 | 197.76 | - | 155.07 | 40.46 | 300.3 | - | 241.64 | 359.0 | |
| Dinwiddie - Dinwiddie | | 27 | 6 | 9 | 12 | 1.4 | 1.8 | 1.5 | 1.1 | 837.3 | 771.0 | 746.0 | 995.0 | 708.3 | 730 | 705 | 690 | 16.0 | 92.35 | 84.00 | 98.00 | 95.05 | 369.0 | 348 | 405.0 | 354.0 | |
| Caroline - Mica, sparta, Edmond pendleton | | 6 | 3 | - | 3 | 1.41 | 1.0 | - | 1.83 | 992.6 | 967.0 | - | 1018.2 | 860.0 | 850 | 900 | 870 | 15.0 | 86.01 | 75.00 | - | 97.02 | 348.9 | 294 | - | 403.7 | |
| Ewing - Lee | | 2 | - | - | 2 | 1.0 | - | - | 1.00 | 496.0 | - | 496.0 | 1000.0 | - | - | 1000 | -102.0 | 32.80 | - | - | 32.80 | 427.0 | - | - | 427.0 | | |
| Lunenburg - Kenbridge | | 31 | - | 6 | 25 | 1.7 | - | 1.8 | 1.6 | 642.9 | - | 640.0 | 645.9 | 615.0 | - | 590 | 640 | 4.5 | 95.67 | - | 123.00 | 66.35 | 371.5 | 270 | - | 473.0 | |
| Brunswick - Lawrenceville | | 3 | - | 3 | - | 1.6 | - | 1.6 | - | 389.5 | - | 389.5 | - | 685.0 | - | 685 | - | -0.75 | 142.00 | - | 142.00 | - | 280.0 | - | 280 | - | |
| Russell - Lebanon | | 22 | - | 2 | 20 | .74 | - | .6 | .89 | 500.1 | - | 1040.0 | 60.3 | 967.5 | - | 1085 | 850 | -93 | 45.90 | - | 81.00 | 0.80 | 426.9 | - | 347 | 506.8 | |
| Campbell - Naruna | | 19 | - | 11 | 8 | 1.4 | - | 1.3 | 1.6 | 498.9 | - | 595.0 | 402.8 | 652.5 | - | 615 | 690 | -30.8 | 36.73 | - | 50.00 | 23.46 | 197.6 | - | 235 | 160.1 | |
| Bedford - New London | | 15 | - | 9 | 6 | 1.4 | - | 1.6 | 1.3 | 741.0 | - | 784.0 | 698.0 | 751.6 | - | 725 | 780 | -1.4 | 101.75 | - | 98.00 | 106.80 | 372.0 | - | 375 | 369.0 | |
| Powhatan - Powhatan | | 9 | 4 | - | 5 | 1.8 | 2.5 | - | 1.2 | 791.7 | - | 800.0 | 783.5 | 780.0 | - | 800 | 760 | 1.5 | 140.64 | 190.00 | - | 91.29 | 291.9 | 359 | - | 224.8 | |
| Halifax - Tarbeville | | 27 | 5 | 6 | 16 | 1.0 | 1.9 | 1.3 | 1.5 | 696.4 | 632 | 904.0 | 553.3 | 581.6 | 640 | 575 | 530 | 29 | 111.98 | 163.00 | 143.00 | 29.94 | 286.7 | 260 | 311 | 269.0 | |
| TOTALS | | 405 | 76 | 124 | 205 | | | | | | | | | | | | | | | | | | | | | | |
| AVERAGE | | | | | | 1.5 | 1.7 | 1.5 | 1.32 | 702.58 | 733 | 698 | 676.75 | 673 | 740 | 650 | 630 | 43 | 97.56 | 119.00 | 110.00 | 64.00 | 295.5 | 279 | 299 | 308.4 | |
| Farmers Average | | | | | | 4.3 | | | | | | | | | | | | | | | | | | | | | |

Farmers Average for 1923 - - - - - 43.00
Per Cent Student over Farmer - - - - - 56.5

The yield of the farmer is about 8% over that of student for 1923, yet the student has made the larger income. This might be partly explained by variations in types of tobacco used by students since nothing was given to indicate what type the student produces. It must also be remembered that the labor income of the farmer was obtained in a different way here from the method used for corn and potatoes. The net earnings per hour was about 50¢, and the average labor income per acre was \$97.60 for the three year average.

The average time to produce an acre of tobacco was 197 hours, and was less in 1923 when the average scope was greatest.

These figures would indicate that the students' are doing considerably better than the average farmers and are therefore profiting so far as tobacco-growing is concerned.

Effect of Instruction on Wheat Production.

Statistics for wheat are given in Table IV.

Explanations as given for corn table will apply here also.

The performance in wheat growing by the student is quite remarkable. Wheat is not nearly so wide-spread nor so popular as the crops previously discussed, as there are a total of only sixty-eight enterprises for the three years. There was raised last year 177.75 acres distributed through 10 counties by 22 students, making an

average scope of 5.35 acres per student. The average scope compares favorably with the farmers'. The students' yield exceeds that of the county in all cases but one and was surpassed there by only a small percentage. The three-year average production for the state is greater than that of the farmer by 75%, thus surpassing excess percentages made for the other crops tabulated in previous tables by a good percentage.

The labor income per acre is \$25.84 for the three-year average. This figure is more than seven and one-half times the small income received by the farmer in the same period.

The returns to the student for hours of labor spent on the crop are 68¢ per hour which surpasses that for either corn, potatoes or tobacco.

The average time required to produce one acre of wheat was 38 hours, being less in 1925 when average scope was greatest. It is interesting to note that the average labor income is somewhat greater in the cases where the average hours of labor are comparatively greater.

Farmers do not usually look upon wheat as one of their principal cash crops, and it is usually raised by the best farmers because it fits well into a more or less fixed rotation. This probably explains one reason why students fail to elect wheat enterprises so often. Much of the important work on wheat has to be done during the school year while the student is busy with other things, hence it

is inconvenient for him to take wheat enterprises.

The student has been studying the value of good seed and evidently gained other valuable information in his course which has caused the decided increase in yield with a proportionate increase in labor income. His figures for labor income may be too high for reasons previously discussed, but the comparison with the average farmer's figures are, evidently, not far wrong when the method by which the farmer's labor income, was obtained is considered.

Effect of Instruction on Cotton Production

Cotton is a new crop in some parts of the state, but is growing in popularity. Table V gives data for cotton which was obtained similar to that for the other tables. Figures for labor income were obtained from the same bulletins as those for labor income on corn, except the cotton was classified according to yield per acre rather than by sections of the country.

Students conducted 141 enterprises during the three years, 66 of which were conducted last year. The average scope for the three years was 1.9 acres, but only 1.6 acres for last year. A total of 105.25 acres was raised last year in 14 counties.

Farmers are surpassed by students in average yields per acre in all counties but three according to the figures in Table V. The total average production is greater by 19% than the state average for the farmer.

TABLE V

cotton

| County | Schools | No. of enterprises | | | Acreage or scope per enterprise | | | Yields per acre | | | | | | % incr. or decr. Student | Labor Income (Earnings) Per Acre | | | Hours of Labor Required per Enterprise | | | | | | | | |
|--|------------|--------------------|-----------|-----------|---------------------------------|----------------------|------------|-----------------|--------------|----------------------|------------|------------|------------|--------------------------|----------------------------------|------------|-----------|--|--------------|----------------------|--------------|--------------|--------------|----------------------|--------------|------|
| | | Tot. | '23 | '24 | '25 | Avg. 1, 2 or 3 years | '23 | '24 | '25 | Avg. 1, 2 or 3 years | 1923 | 1924 | 1925 | | Avg. 1, 2 or 3 years | '23 | '24 | '25 | with farmer | Avg. 1, 2 or 3 years | 1923 | 1924 | 1925 | Avg. 1, 2 or 3 years | 1923 | 1924 |
| Prince George - Carson, Disputanta | 8 | - | - | 8 | 1.2 | - | - | 1.2 | 187 | - | - | 187 | 205 | - | - | 205 | -9.6 | 43.40 | - | - | 43.40 | 180.05 | - | - | 180.05 | |
| Isle of Wight - Carrsville, Windsor | 35 | 2 | 15 | 18 | 2.1 | 2.7 | 2 | 1.5 | 368 | 368 | 278 | 528 | 240 | 330 | 180 | 210 | 61 | 75.67 | 98 | 55.59 | 73.43 | 136.43 | 140 | 104.3 | 164.7 | |
| Charlotte - Charlotte C.H. | 2 | - | - | 2 | 2.0 | - | - | 2.0 | 268.8 | - | - | 268.8 | 240 | - | - | 240 | 12 | 25.68 | - | - | 25.68 | 186.50 | - | - | 186.5 | |
| Mecklenburg - Chase City | 9 | - | 3 | 6 | 1.5 | - | 1.67 | 1.3 | 217.0 | - | 173.1 | 261.0 | 211.3 | - | 200 | 225 | 2 | 29.38 | - | 51.21 | 27.55 | 118.8 | - | - | 118.8 | |
| Chesterfield - Chester | 1 | - | - | 1 | 2.0 | - | - | 2.0 | 750.0 | - | - | 750.0 | 250 | - | - | 250 | 200 | 131.00 | - | - | 131.00 | 187.0 | - | - | 187.0 | |
| Pittsylvania - Olinax, Dan River, Whitwell | 4 | - | - | 4 | 1.3 | - | - | 1.3 | 255.0 | - | - | 255.0 | 200 | - | - | 200 | 27 | 34.65 | - | - | 34.65 | 165.5 | - | - | 165.5 | |
| Southampton - Courtland | 27 | 8 | 10 | 9 | 1.9 | 1.7 | 1.5 | 2.4 | 317 | 366 | 226 | 359.0 | 258.3 | 345 | 180 | 280 | 18 | 57.08 | 32.15 | 35.03 | 44.05 | 133.4 | 79 | 123.3 | 197.9 | |
| Dinwiddie - Dinwiddie | 8 | 1 | 4 | 3 | 1.3 | 1.0 | 1.25 | 1.7 | 268 | 150 | 381 | 244 | 225.0 | 280 | 185 | 210 | 15 | 10.33 | 3.87 | 11.14 | 15.99 | 127.3 | 90 | 93.5 | 198.3 | |
| Hansemond - Driver, Holland, Shaleyville | 16 | 2 | 5 | 9 | 1.1 | 1.0 | 1.2 | 1.2 | 344 | 322 | 303 | 406 | 235 | 335 | 170 | 350 | 20 | 76.64 | 78.28 | 76.85 | 74.80 | 116.6 | 102 | 131.9 | 116.0 | |
| Norfolk - Great Bridge | 2 | - | - | 2 | 1.0 | - | - | 1.0 | 300 | - | - | 300 | 210 | - | - | 210 | 40 | 82.50 | - | - | 82.50 | 111.0 | - | - | 111.0 | |
| Lunenburg - Kenbridge | 6 | - | 4 | 2 | 1.7 | - | 1.4 | 2.0 | 122 | - | 58 | 186 | 242.5 | - | 210 | 275 | -98 | 41.10 | - | 32.90 | 49.51 | 182.2 | - | 154.0 | 210.5 | |
| Brunswick - Lawrenceville | 6 | - | 6 | - | 2.13 | - | 2.13 | - | 136.7 | - | 136.7 | - | 195.0 | - | 195 | - | -43 | 77.58 | - | 77.58 | - | 75.5 | - | 75.5 | - | |
| Halifax - Tarbeville | 11 | - | 9 | 2 | 2.5 | - | 2.5 | 2.5 | 242.0 | - | 218.00 | 267 | 230.0 | - | 200 | 260 | 5 | 32.11 | - | 26.32 | 37.90 | 254.7 | - | 250.0 | 249.5 | |
| Sussex - Wakefield | 6 | 2 | 4 | 0 | 3.9 | 4.5 | 3.3 | - | 241.0 | 317 | 165.0 | - | 237.5 | 310 | 165 | - | p 1 | 33.61 | 51.41 | 16.20 | - | 192.0 | 196 | 188.1 | - | |
| TOTAL | 141 | 15 | 60 | 66 | | | | | | | | | | | | | | | | | | | | | | |
| AVERAGE | | | | | 1.9 | 2.1 | 1.9 | 1.6 | 301.0 | 325.2 | 219 | 359 | 252 | 325 | 181 | 250 | 19 | 57.74 | 78.00 | 42.11 | 53.12 | 147.3 | 106.5 | 166.8 | 168.7 | |

Farmers Avg. for 3, 2, and 1 yr. resp. - 51.21
 % Student over Farmer ----- 12.7
 35.56; 35.59
 30 : 37

Labor income per acre was greater than for the farmer by 37% in 1925 and 12.7% for the three-year average. The three-year average labor income is \$57.74 per acre, and the earnings per hour is 74¢ for total hours worked on the crop. The average time to produce one acre of cotton was 30 hours and is much larger for the year 1925 when the scope was smallest.

This is apparently a good income for this crop.

The final reports of some of the agricultural instructors were not clear in case of yields on this crop, consequently, it is not wise to attach too much significance to these figures. However, it is believed the figures are conservative in practically every case.

The agricultural instructors are apparently doing some fine work with the students on this crop.

Effect of Instruction on Peanut Production.

Table VI gives data for peanut production so far as could be obtained. The figures are obtained as they were for other crops except no data could be found on production costs for the average farmer. Peanut enterprises were elected by students in only eight counties.

Where yield was given in bags it was reduced to bushels by multiplying by four and by counting 30 lbs. to the bushel.

There were 71 enterprises last year embracing an area of 192.2 acres. The students' average production is larger in the case of all counties excepting one again.

Their total average exceeds the state average by 75

The labor income is good, averaging \$40.68 per acre and giving the student a return of 65¢ per hour for the total hours consumed in producing the crop. Peanuts are not raised in a very large section of the state because of climatic conditions, hence the limited number of enterprises. Less significance may be given to the yields, since yields were given in various units of measurement. Because of the possibility of error, the figures are not quite so reliable. It required an average of 62 hours to produce an acre of peanuts and it required 73 hours in the year 1925 where the scope was smallest, showing that the larger the scope, the less time it usually requires to produce an acre.

Effect of Instruction on Sweet Potatoes

Table VII gives data for sweet potatoes. No labor income figures for the average farmer could be obtained for these.

There were only 25 enterprises in sweet potatoes embracing an area of only 11 counties, and 7.75 acres with an average scope of $\frac{2}{3}$ of an acre. The farmer's average scope is about the same, as that of the student. The students are a little ahead of the farmers in average yields for 6 counties and 6% ahead for the state.

Labor income per acre is very high averaging \$106.60 for the three years, and net returns for work expended averages 86¢ per hour. It appears that more attention

TABLE VIII
Soy Bean Seed

| County | Schools | No. of enterprises | | | Average of scope per Enterprise | | | Fields per Acre | | | | Yield per Acre with farmer | Labor Income (Earnings) per Acre | | | Hours or Labor Required per Enterprise | | | | | | | | | | |
|---|---------|--------------------|-----------|------------|---------------------------------|-------------|------------|-----------------|----------------------|-------------|-----------|-------------------------------|----------------------------------|----------------------|-----------|--|----------|----------------------|--------------|--------------|--------------|--------------|--------------|------------|------------|--------------|
| | | '23 | '24 | '25 | Avg. 1: 2 or 3 yrs | '23 | '24 | '25 | Avg. 1: 2 or 3 years | '23 | '24 | | '25 | Avg. 1: 2 or 3 years | 1923 | 1924 | 1925 | Avg. 1: 2 or 3 years | 1923 | 1924 | 1925 | | | | | |
| Gloucester - Achilles, Gloucester | | 15 | - | 3 | 10 | 1.35 | 1.3 | 1.3 | 1.4 | 10.5 | - | 11.8 | 9.3 | - | 37.47 | - | 35.15 | 39.80 | 60.15 | - | 61 | 60.5 | | | | |
| Louisa - Apple Grove | | 4 | - | - | 4 | 1.8 | - | 1.8 | - | 6.6 | - | 6.6 | - | 26.60 | - | 26.60 | - | 56.00 | - | 56 | - | | | | | |
| Hanover - Atlee | | 5 | - | 3 | 2 | 1.5 | - | 1.1 | 1.9 | 10.2 | - | 15.7 | 4.0 | - | 27.81 | - | 29.85 | 15.90 | 137.5 | - | 79 | 196.0 | | | | |
| Hottelway - Parkville | | 1 | - | - | 1 | 1.0 | - | - | 1.0 | 9.0 | - | - | 9.0 | - | 21.20 | - | - | 21.20 | 45.0 | - | - | 45.0 | | | | |
| Prince George - Carson, Disputanta | | 2 | - | - | 2 | 2.0 | - | - | 2.0 | 23.5 | - | - | 23.5 | - | 32.60 | - | - | 32.60 | 129.5 | - | - | 129.5 | | | | |
| Gumbarland - Gumbarland | | 14 | - | - | 14 | 2.3 | - | - | 2.3 | 5.4 | - | - | 5.4 | - | 19.40 | - | - | 19.40 | 129.7 | - | - | 129.7 | | | | |
| Kingdom - Driver, Holland, Whaleyville | | 1 | - | - | 1 | 1.0 | - | - | 1.0 | 13.0 | - | - | 13.0 | - | 18.40 | - | - | 18.40 | 24.0 | - | - | 24.0 | | | | |
| Carolina - Edmond Pendleton, Nica, Sparta | | 74 | 11 | 13 | 50 | 4.85 | 3.7 | 5.3 | 5.57 | 10.96 | 11 | 10 | 11.9 | - | 20.49 | 23.18 | 22.91 | 15.40 | 173.05 | 185.5 | 218.4 | 120.25 | | | | |
| Norfolk - Great Bridge | | 11 | 5 | 5 | 5 | 1.7 | 1.3 | 1.5 | 2.00 | 15.03 | 14.8 | 11.6 | 18.7 | - | 43.44 | 69.22 | 24.90 | 16.20 | 43.86 | 28.6 | 50.7 | 52.2 | | | | |
| Prince William - Kanassee | | 1 | - | - | 1 | 3.0 | - | - | 3.00 | 17.00 | - | - | 17.0 | - | 29.80 | - | - | 29.80 | 208.00 | - | - | 208.0 | | | | |
| Westmoreland - Montross | | 20 | - | - | 20 | 2.2 | - | - | 2.2 | 2.3 | - | - | 2.3 | - | 15.90 | - | - | 15.90 | 92.5 | - | - | 92.5 | | | | |
| Princess Anne - Oceana | | 12 | 7 | 5 | - | 2.1 | 1.0 | 3.2 | - | 16.4 | 15.1 | 17.7 | - | 31.84 | 32.68 | 31.00 | - | 75.6 | 19.40 | 131.6 | - | | | | | |
| Middlesex - Syringa | | 1 | - | - | 1 | 2.0 | - | - | 2.0 | 12.0 | - | - | 12.0 | - | 23.50 | - | - | 23.50 | 100.00 | - | - | 100.0 | | | | |
| Henrico - Varina | | 4 | - | 2 | 2 | 6.5 | - | 2 | 11 | 12.3 | - | 10.0 | 14.6 | - | 19.58 | - | 22.96 | 16.20 | 100.00 | - | 34.0 | 166.0 | | | | |
| TOTAL | | 175 | 33 | 183 | 107 | | | | | | | | | | | | | | | | | | | | | |
| AVERAGE | | | | | | 3.18 | 2.4 | 3.3 | 3.65 | 11.5 | 12 | 11 | 10.6 | 16.5 | 19 | 14 | - | -44 | 26.99 | 34.00 | 30.00 | 16.97 | 112.4 | 101 | 126 | 110.2 |
| FARMERS AV. SCOPE | | | | | | 3.4 | | | | | | | | | | | | | | | | | | | | |

During the past year there were 107 enterprises in seed while only 29 were conducted for hay. The acreage of the seed enterprises was 412 while it was only 70.6 for hay, the average scope being about the same. The state scope is very little larger for each. The average production for the state in soy bean seed surpasses that for the students 44% and estimates from Cumberland County are much smaller than the state average. However these estimates are 10% more than the students in Cumberland County produced per acre. The students have surpassed the average for the state in hay production by 43%. The state figures in Bulletin 908 for seed were higher than those from any other state, hence an error may have been made by the statisticians.

No comparative data for labor income was secured except that shown from Cumberland County, which indicates better returns for the average farmer than the student in seed, but a slight difference in favor of the student in hay income. Average labor income for the student raising seed is about \$27.00 per A. or 76¢ per hour of time spent on the enterprise. Hay returns are \$22.11 per acre or 76¢ per hour also. Time required by student on seed was 35 hours per acre, while the Cumberland estimates show an average of 65 hours. The average time on seed in Cumberland County for the student is 52 hours, however, against 70 last year for the farmer. We note the scope is larger in 1925, and the

hours of labor per acre are about 29, while in the results in Cumberland County the hours per acre are greatest where the scope is greatest, which appears inconsistent.

Twenty-nine hours per acre are required to produce hay for the average student, while it averaged about 27 for the Cumberland County farmer. The small scope by the student in Cumberland required an average of 107 hours per acre. It also required 39 hours per acre for 1925, where the average scope was smallest.

Either instruction in soybean production has been faulty or else the soybean figures for the state are not accurate. Dr. T. K. Wolfe and Prof. T. B. Hutcheson of the V.P.I. Experiment Station assert that the state yields given are too high and should have been about 12 bushels per acre.

Farmers probably use their best land for this crop, and consequently get comparatively high yields. The average student, however, is not doing as well as he should on this crop.

Effect of Instruction on Tomato Production

Table X gives information on tomato production. This has been worked out similar to other tables. No statistics for the average farmer could be obtained from the separate counties, except the data sent by Mr. N. R. Patrick from Botetourt County, which is shown here. The average yield for the state was calculated from figures shown in U. S. Department of Agriculture Bulletin No. 908 and Virginia Farm

TABLE X
Tomatoes

| County | School | No. of enterprises | | | Average or scope per Enterprise | | | Yields per acre | | | | | | Labor Income (Earnings) per acre | | | Hours or Labor Required per Enterprise | | | | | | | | | | |
|---|--------|--------------------|----------|-----------|---------------------------------|------------|------------|-----------------|----------------------|---------------|------------|------------|--------------|----------------------------------|------------|------------|--|-------------|---------------|--------------|--------------|--------------|--------------|-----------|-----------|--------------|--|
| | | '23 | '24 | '25 | Avg. 1, 2 or 3 years | '23 | '24 | '25 | Avg. 1, 2 or 3 years | Student | Farmer | Student | Farmer | Student | Farmer | Student | Farmer | Student | Farmer | | | | | | | | |
| Gloucester - Achilles, Gloucester | | 9 | - | - | 9 | .133 | - | - | .133 | 137 | - | - | - | - | - | - | - | - | \$73.00 | - | - | \$73.00 | 17.8 | - | - | 17.8 | |
| Hanover - Atlas | | 8 | - | 2 | 6 | .69 | - | .5 | .38 | 174 | - | 131 | 217 | - | - | - | - | - | 245.47 | - | 187.35 | 303.60 | 162.9 | - | 46 | 319.8 | |
| Louisa - Apple Grove | | 1 | - | - | 1 | 1.0 | - | - | 1.0 | 80 | - | - | 80 | - | - | - | - | - | 30.12 | - | - | 30.12 | 65.0 | - | - | 65.0 | |
| Wise - Big Stone Gap | | 1 | - | - | 1 | .25 | - | - | .25 | 212 | - | - | 212 | - | - | - | - | - | 522.00 | - | - | 522.00 | 160.0 | - | - | 160.0 | |
| Montgomery - Blackburg, Riner | | 4 | - | - | 4 | 1.0 | - | - | 1.0 | 117 | - | - | 117 | - | - | - | - | - | 128.90 | - | - | 128.90 | 164.5 | - | - | 164.5 | |
| Rockingham - Bridgewater | | 1 | - | - | 1 | 10 | - | - | 10 | 3.6 | - | - | 3.6 | - | - | - | - | - | 2.00 | - | - | 2.00 | 128.5 | - | - | 128.5 | |
| Northampton - Eastville, Massawadox | | 3 | - | - | 3 | 3.7 | - | - | 3.7 | 118 | - | - | 118 | - | - | - | - | - | 9.30 | - | - | 9.30 | 84.0 | - | - | 84.0 | |
| Lee - Ewing | | 1 | - | - | 1 | 3.0 | - | - | 3.0 | 43.3 | - | - | 43.3 | - | - | - | - | - | 18.70 | - | - | 18.70 | 531.0 | - | - | 531.0 | |
| Potter - Pincastle | | 15 | - | 12 | 1 | 1.1 | - | 1.7 | .5 | 258.5 | 148 | 283 | 574 | - | - | - | - | - | 196.81 | - | 5.83 | 391.90 | 148.75 | - | 85.5 | 212.0 | |
| Augusta - Fishersville, New Hope, Weyers Cave | | 2 | - | - | 2 | 2.5 | - | - | 2.5 | 111 | - | 111 | 111 | - | - | - | - | - | 35.60 | - | - | 35.60 | 232.00 | - | - | 232.0 | |
| Mequier - Marshall | | 1 | - | - | 1 | 4.0 | - | - | 4.0 | 179.1 | - | - | 179.1 | - | - | - | - | - | 70.45 | - | - | 70.45 | 319.00 | - | - | 319.0 | |
| Westmoreland - Montross | | 32 | 8 | 12 | 13 | 1.3 | 1.5 | 1.4 | 1.2 | 136.3 | 121 | 131 | 164 | - | - | - | - | - | 98.14 | 30.85 | 31.68 | 51.90 | 293.8 | 287.5 | 116 | 108.0 | |
| Roanoke - Salem | | 6 | - | - | 6 | 2.3 | - | - | 2.3 | 96.0 | - | - | 96.0 | - | - | - | - | - | 110.40 | - | - | 110.40 | 366.3 | - | - | 366.3 | |
| Middlesex - Springs | | 5 | 3 | 4 | 6 | 2.5 | 4 | 1 | - | 89.65 | 74.5 | 104.8 | - | - | - | - | - | - | 31.75 | 30.75 | 32.75 | - | 128.5 | 172 | 87 | - | |
| James City - Roano | | 1 | - | - | 1 | 1.0 | - | - | 1.0 | 89.3 | - | - | 89.3 | - | - | - | - | - | 27.10 | - | - | 27.10 | 165.0 | - | - | 165.0 | |
| Henrico - Varina | | 1 | - | - | 1 | .75 | - | - | .75 | 200 | - | - | 200 | - | - | - | - | - | 64.40 | - | - | 64.40 | 170.0 | - | - | 170.0 | |
| TOTAL | | 89 | 9 | 29 | 51 | | | | | | | | | | | | | | | | | | | | | | |
| AVERAGE | | | | | | 1.5 | 1.6 | 1.4 | 1.51 | 120.01 | 108 | 133 | 119.1 | 130 | 139 | 128 | 124 | -8.3 | 342.40 | 31.00 | 33.00 | 73.22 | 115.4 | 77 | 95 | 174.2 | |

FARMERS AVG. SCOPE 2:

Statistics for 1925. Tomatoes are an important truck crop and are raised in large quantities for canning purposes.

Mr. N. R. Patrick's estimate from Botetourt County.

Tomatoes.

| | Yield | Ave. acres per farmer | Total hours per acre | Labor income per acre |
|--------|-------|--------------------------|-------------------------|--------------------------|
| 1923 - | 110 | 4 | 115 | \$24.00 |
| 1924 - | 100 | 4 | 110 | 22.00 |
| 1925 - | 110 | 4 | 105 | 26.00 |

Sixteen counties have students taking tomato enterprises. Fifty-one enterprises with a total scope of 76.75 acres were conducted last year. Average scope is $1\frac{1}{2}$ acres, while that of the farmer is two. The average yields in Botetourt are higher for the student than the farmer by 134%, while the average farmer in the state surpasses the average yields of the students by 8.3%.

Labor income averages \$42.40 per acre for the three year average giving net income of 55¢ per hour for each hour worked on enterprise.

The labor income of the student surpasses that of the Botetourt County Farmer by a large percentage. Average hours devoted to raising one acre by students were 77, while that of the Botetourt County farmers were 110. The Botetourt students required 135 hours per acre, while the average scope of the student is much smaller than that of the farmer in this county.

Significance of Vocational Agricultural Instruction

Figures in Table XI were obtained by summing those found on final reports of instructors for the years 1923-1924 and 1925.

Table XI

| | 1923 | 1924 | 1925 |
|--|----------|-----------|-----------|
| Number of enterprises begun | 999 | 1339 | 1855 |
| Number of enterprises completed | 826 | 1115 | 1476 |
| Average number of hours devoted to enterprises | 200 | 187 | 194 |
| Number of animals raised or cared for | 2158 | 2279 | 3900 |
| Poultry raised (chickens,) (ducks, etc.) | 1714 | 14220 | 33700 |
| Eggs incubated | 6294 | 15021 | 37000 |
| Acres in crops | 1472 | 2351 | 3650 |
| Acres in trees | 95 | 442 | 600 |
| Hives of bees | 23 | 130 | 101 |
| No. of non-production enterprises | 82 | 120 | 157 |
| Total labor income | \$88,582 | \$139,846 | \$195,187 |

All instructors did not tabulate these different items on their reports, consequently, the figures are not as large as they should be, but they represent the general trend of the activities of the students.

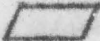
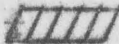
Approximately 80% of those who began supervised practices completed the enterprises selected.

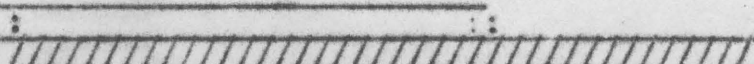



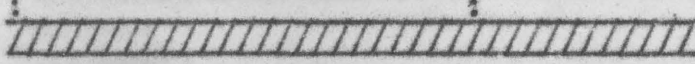
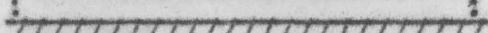
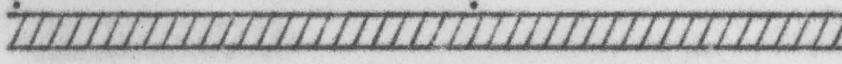
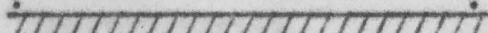
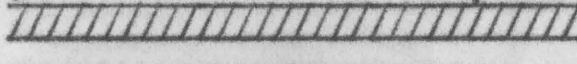
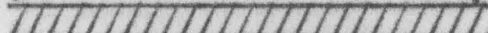



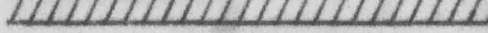
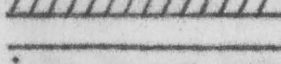
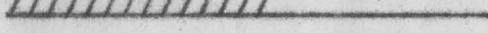
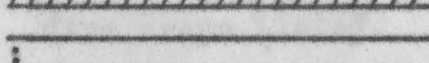

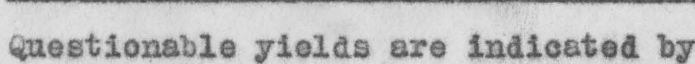
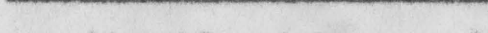
Deducting non-production enterprises from those completed and dividing result into total income we find the average income. This was \$119 for 1923, \$140 for 1924,

and \$148 for 1925. Dividing these results by average number of hours devoted to enterprises, we obtain earnings per hour. This was for 1923, 60¢; 1924, 75¢; and for 1925, 76¢ per hour.

Diagram I

Yields Compared - Farmer and Student

Average for years 1923-24-25. Farmers 
Students 

| | Farmer | Student | Per Acre |
|-----------|--|---|-------------------------|
| Corn |  |  | 24 bu. 56.3 bu. |
| Potatoes |  |  | 104 bu. 112 bu. |
| Tobacco |  |  | 581.6 lb. 696.4 lb. |
| Wheat |  |  | 13.6 bu. 23.8 bu. |
| Cotton |  |  | 252.0 lb. 301.0 lb.? |
| Peanuts |  |  | 52.0 bu. 181.0 bu.? |
| Sw. Pot. |  |  | 106.0 bu. 114.4 bu. |
| S.B. Seed |  |  | 16.5 bu.? 11.5 bu. |
| Tomatoes |  |  | 130.0 bu. 120.0 bu. |
| S.B. Hay |  |  | 1.4 T. 2.0 T. |

Questionable yields are indicated by the question mark.

Diagram II







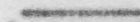






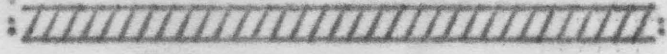

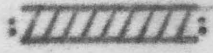




Labor Income Compared - Farmer and Student

Average for Years 1923-24-25

Farmers : _____ :

Students :  :

Per acre

| Crop | Farmers | Students | Per acre |
|-----------|---|--|------------------|
| Corn |  |  | \$15.23 51.96 |
| Potatoes |  |  | 63.93 62.82 |
| Tobacco |  |  | 76.00 97.66 |
| Wheat |  |  | 3.02 25.94 |
| Cotton |  |  | 51.21 57.74 |
| Peanuts |  |  | 40.68 |
| Sw. Pot. |  |  | 106.60 |
| S.B. Seed |  |  | 27.00 |
| Tomatoes |  |  | 42.40 |
| S.B. Hay |  |  | 22.11 |

No Labor Income Obtained from Farmer on last five crops listed.

Observations from a study of the preceding tabulations indicate that:

1. Students and instructors could wisely use greater care in keeping records, that returns submitted will more nearly represent what is desired. For example:
 - (1) Give yields in the standard units used by statisticians. These are often tabulated in units significant to the locality of students only, and the correct reduction figure is not given.
 - (2) A uniform system of keeping accurate data on cost production should be used. Some items are often overlooked, such as land rent, use of machinery, storage, etc. In corn production, the value of fodder should be deducted from total cost of producing corn, to get an accurate figure for cost of producing the corn. This could not well be done, however, in this study, since value of fodder was rarely mentioned.
 - (3) Man-hours and student hours should be tabulated separately, as is called for in the new report form. However, this was not done in the old reports and hours had to be combined for this study.
2. Increase in number of schools and number of students enrolled has caused a consequent increase in number of enterprises during the three year period.
3. A substantial increase in enterprises per student and an increase in scope of each enterprise is observed, which indicates a decided growth in the right direction.

4. Average income of student and income per hour have increased each year.
5. Income per acre and income per hour on the crops studied indicate that the student is making a financial success on his enterprises.
6. Students' labor income per acre has surpassed the farmers' labor income per acre, on four of the five crops for which we were able to secure data for the farmer, by a substantial percentage.
7. Students' yields have also surpassed those of the average farmer by a large percentage for all crops studied, excepting soy bean seed and tomatoes. It must be remembered that yields for farmers on soy beansseed are very doubtful and should be about 40% lower if figures given by Dr. Wolfe and Professor Hutcheson are correct. Yields on peanuts and cotton for students were marked doubtful, but the labor income indicates fine yields for these.
8. A substantial increase in all items listed in these tables is observed as we proceed from data for 1923 to that for 1925. This indicates a healthy increase in the efficiency of agricultural instructors. While educational value is the aim, the vocational effectiveness can be measured only in dollars and yields.

Part II

Significance of Instruction to Special Classes
in Vocational Agriculture

Part-time and evening classes are becoming a most important part of the work of Vocational Agricultural instructors also.

Fifty-six evening and four part-time classes were conducted in the state last year. Summaries from a few of these evening reports are herewith presented:-

1. Boyce Evening School, Clarke Co.:-

18 - farmers attended meetings

9 - carried through enterprises

220 - sheep treated for stomach worms,

lambs deked and castrated

1346 - ears of corn tested for root rot
and germination

8 - acres of alfalfa inoculated and limed

7.5-acres of soy beans inoculated

35 - acres of sweet clover inoculated.

2. Elk Creek Evening School, Grayson Co.:-

16 - adult farmers enrolled and conducted
enterprises in corn, sheep, soy beans and
tomatoes, making a total profit on these
enterprises of \$3211.42.

290 - average hours per enterprise.

3. Courtland Evening School, Southampton Co.:-

24 - acres of crops raised under instructor's
supervision.

- 29 - improved practices in raising cotton introduced, resulting in increased earnings to farmers of at least \$250.
4. Burkes Garden Evening School, Tazewell Co.: -
12 - enterprises in "Lamb Improvement" conducted, making total profits of \$6335 and a gain of 15% - 2090 hrs.
3 - enterprises in "Certified Cobbler" seed with \$1754 profits, 2800 hrs.
5. Auburn (Riner) Evening School, Montgomery Co.: -
10 - farmers enrolled
9 - conducted enterprises in dairying, making labor income of \$.70 per hr.
6. Fort Lewis and South View Evening Schools, Roanoke County: -
9 - students conducted enterprises in corn, tomatoes, and soy beans, raising 25 A. corn, averaging 35 bu. per A., 14 A. tomatoes, and 8 A. soybeans.
Labor income was \$2678.15, self-hours 2049. Average hours per enterprise was 409.8.
7. Lincoln Evening School, Loudoun County: -
16 - adults studied "More Economical Production of Milk", taking enterprises in dairying.

The following jobs were concentrated on:-

Feeding Concentrates, feeding legumes, selecting the head sire and testing milk records for more economical production of milk.

Results are: improvement in feeding practices, securing better sires, and increased interest in milk records.

\$18410.16- labor income of farmers, averaging 1277.5 hours per enterprise, thus making labor income of 90¢ per hour.

8. Chase City Evening School, Mecklenburg Co.:-

10 - students did work on cotton enterprises, raising 52200 lbs. on 56.5 acres, making an average of 923.9 lb. per acre.

Successful in getting farmers to use new and better practices in the use of seed, planting and fertilizing cotton.

9. Sparta Evening School, Caroline Co.:-

37 - students enrolled.

29 - conducted soy bean enterprises, having a total scope of 206 acres, and yield of 26628 bu.

Labor income \$3442.38 or 118.70 per enterprise.

10. Turbeville Evening School, Halifax Co.:
10 - improved practices on control of live stock diseases and pests introduced.
11. Whitmell and Bethel Evening Schools, Pittsylvania Co.:
32 - farmers conducted enterprises in crops. Lime and legumes studied and many farmers were induced to purchase lime.
12. Nokesville Evening School, Prince William County:
10 - students enrolled, taking 117 acres in soy bean enterprises, making a total net profit of \$2196 or \$18.25 per acre.
13. Syringa Evening School, Middlesex Co.:
5 - enterprises completed and five cost accounts kept
14. Manassas High School, Prince William Co.:
A radio talk given by Mr. H. W. Sanders, who is now assistant agricultural instructor at V.P.I., states among other things that
Department of Voc.Ag. in Manassas School is directly responsible for a 16% increase in average milk production and 11% increase in average butter-fat production.

over the production secured there seven years ago when this department was begun there. This has meant an increase in the value of the dairy products to the community of more than \$15,000 annually. A state-wide reputation has been made for the community for developing exceptional dairy stock for sale also. Soy beans have also been introduced into this community and a resulting decrease in the cost of milk production has occurred.

Seed corn testing for root-rot and germination has been carried on to a great extent, thereby increasing average yields 10 to 25% and adding hundreds of dollars to the value of this important crop.

Enrollment of students from farm homes in agricultural courses has increased 200% during this period.

15. Dublin High School, Pulaski Co.:-

Although this school has been in operation only two years, Mr. F. H. Jordan, the agricultural instructor says some good work has been done there by the

introduction of poultry enterprises, pure~~x~~ seed corn, and other enterprises.

Two illustrations were cited by him, namely:-

Frank Cecil secured his father's interest and started the poultry enterprise by purchasing 500 pure-bred leghorns and investing \$1300 in an up-to-date poultry plant. The capacity of the plant has been doubled since and the returns are good.

Forrest Boccock, another student, conducted an enterprise in Reid's Yellow Dent seed corn and produced 356 bu. of corn and 200 shocks of fodder on 6½ acres, making a labor income of \$416.55, or a net profit of \$328.20. This farm had never had good seed corn planted on it before.

Such instances might be multiplied indefinitely, if time and space permitted.

As a result of the part-time and evening class work, some of the work which has been accomplished may be summarized as follows:-

| | |
|--|-----|
| 1. Evening classes conducted last year | 56 |
| Number of students enrolled | 807 |
| 2. Part-time classes last year | 4 |
| Number of students enrolled | 28 |

3. More economical production of milk, by
 - (1) improving feeding practices
 - (2) selecting and buying better sires for herds
 - (3) keeping milk records
 - (4) greater growing of soy beans
4. Introduction of pure seed into community, corn, cotton and potatoes
5. Better live-stock:
Lamb improvement program, dairying study
6. Better farm practices:
(planting, fertilizing, better use of seed, better use of lime and legumes)
7. Better control of live stock diseases and pests
8. Better control of plant diseases

Part III.

Significance of Part Played by Instructor in
Community Organization.

Table XII is intended to give a list of the organizations in which agricultural instructors have functioned and some of the parts played by instructors according to replies received from questionnaire previously referred to. Answers received are now more than one year old and are not just what was desired in all cases, due probably to the vagueness and indefiniteness of the questions, rather than to the replies received.

Table XII

| Organizations | No. of instructors who were identified with the organization in the following ways:- | | | |
|---|--|---|--|----|
| | Instrumental in Perfecting | President, Chairman, Secretary, Treasurer | Executive Committee, Leader, Adviser, Board of Directors | |
| 1. Civic Clubs: Members | | | | |
| Community League, Parent-Teachers' Association, Mothers' Club, Chamber of Commerce, American Legion. | 54 | 22 | 13 | 9 |
| 2. Farmers' Organizations:- | | | | |
| Agricultural Boards, Tobacco Growers; Co-operative Exchange; Cheese Factory; Live Stock, Cow Testing and Dairy Associations; Farmers' Union; Farmers' Bureau; Seed Production Asso. | 39 | 39 | 16 | 7 |
| 3. Boys and Girls Clubs:- Agricultural, 4-H; Scouts; Camp-fire Girls; Literary and Athletic Clubs; Thrift Clubs, etc. | 18 | 27 | 1 | 11 |
| 4. Other Business Organizations:- | | | | |
| Bank; Board of Trade; Fair Associations; Business Clubs; Teachers' Associations; County Council; Home Dem.Clubs | 37 | 21 | 9 | 6 |

This indicates that these instructors play a very important part in the agricultural and economic life of their

communities. The table is not up-to-date and is, of course, incomplete due to the vagueness and meagerness of the information received from instructors.

The actual activity of the instructors is in reality greater than represented in this and the following table. Many activities were overlooked by instructors.

Sixty different organizations were listed by instructors, and they played a rather prominent part in their functioning.

One hundred sixty active memberships were held by instructors in these organizations. They were instrumental in perfecting one hundred of the organizations.

Significance of Vocational Instruction to Community

Table XIII is a list of the most wide-spread improvements brought about by the activities of the instructors according to replies received to the last question on the questionnaire and according to some extension work observed in the final reports for 1925 at the Teacher Training Office

| Outstanding improvements:- | Number of schools or communities affected:- |
|---|---|
| Part-time and evening classes conducted (807 students enrolled in evening classes in 1925) | 74 |
| Athletics organized or improved | 30 |
| Better live stock (dairy, poultry, sheep, etc.) | 25 |
| Better seed (testing, treatment, selection) | 24 |
| Farm practices improved | 24 |
| Home Orchard improvement (Pruning, spraying, selecting better varieties) | 16 |

| | |
|--|----|
| Community interest and cooperation aroused or increased | 15 |
| Social and recreational conditions improved | 15 |
| Increased use of legumes as soil improver | 13 |
| School grounds improved and beautified | 12 |
| Holding boys in school and producing better farmers | 12 |
| Increased interest in agriculture by boy and farmer | 11 |
| Enrollment and attendance increased in school (50 to 200% increased in enrollment reported) | 10 |
| Interest of patrons in school increased | 9 |
| Poultry interest increased | 8 |
| Cooperative buying and selling brought about | 8 |
| Certified seed introduced (corn,wheat,potatoes,cotton) | 8 |
| Diversified farming introduced | 6 |
| Increased garden and orchard cultivation | 5 |
| Improved roads | 5 |
| Records of farmers kept better | 5 |

Other improved practices mentioned were, greater interest in farmers organizations, better drainage, better use of concrete, better relation between business man and farmer, corn types improved, new crops introduced, dairy interest established, extended high school services, more income to farmers, farm shops improved, hog cholera and other diseases controlled, increased soil improvement, use of more lime, greater prestige of school, milk testing increased, and making the farmers a more industrious and contented people.

Sixty-nine ways in which important commercial services have been rendered were reported by the instructor of vocational agriculture. There was a total of at least 350 cases of

of outstanding results of the introduction of vocational agriculture. Practically all replies to the questionnaire were quite optimistic and indicated that great progress was being made by the agricultural departments, especially in the cases where the instructors were recognized as efficient.

This despite the fact that vocational agriculture instruction in Virginia is comparatively young, having begun in reality only seven years ago, with only 27 departments organized in 1918. The first few years were spent in trying to make the work function.

A review of the data in this paper makes it quite evident that vocational agricultural instructors are performing a great service for the state, and especially the rural sections.

The greater part of this progress has occurred within the past three years.

Some important activities of these instructors may be listed as follows:-

1. Better Farming: Teaching the students on the farm to produce the leading agricultural crops of their communities in the most economical way, thus bringing about better seed, better livestock, better feeding practices, better use of forage crops, more diversified farming, better soils and a better agriculture. The state's average yield and labor income were surpassed in almost every instance for the crops studied.

2. Better Farmers: Improving farm practices, through instruction to the boy and contact with the farmers in the

evening school and other extension work, co-operative marketing associations, better cooperation, better organizations, and greater interest in agriculture.

There is apparently a great field for more evening school, part-time or other extension work of this kind, since much good has been accomplished by the 56 schools in existence, especially last year.

3. Better Standards of Farm Life: Better homes, better schools, better roads, better instructional methods, and more direct contact of the school with the home.

Conferences with leaders in this Vocational agricultural work in Virginia indicates that successful efforts are being put forth to improve on their most excellent program of the past three years. This will, no doubt, do much towards putting Virginia in the front rank among the great agricultural states of the United States.

End.