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Some Results of Eight Years of Vocational Training in Indiana



Prepared under the direction of
Benjamin J. Burriss State Superintendent of Public Instruction
By
THE STATE VOCATIONAL STAFF
and
THE VOCATIONAL TEACHERS AND DIRECTORS
OF INDIANA

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DEPARTMENT OF PUBLIC INSTRUCTION
INDIANAPOLIS

Benjamin J. Burris, Superintendent

Division of Vocational Education
E. A. Wreidt, Director

Z. M. SMITH
Supervisor of Agricultural Education

BERTHA LATTA
Supervisor of Home Economics Education

H. G. McCOMB
Supervisor of Industrial Education

L. B. JOB
Supervisor of Rehabilitation

(3)

It is gratifying to note the success achieved by Indiana's vocational schools during their brief history of eight years. The large percentage of boys who have had vocational training in agriculture and in trades, and who are now at work at the occupations for which they were trained, shows that the vocational schools are realizing their aim in training boys for the farm and for the trades.

The vocational schools constitute an efficient instrument for increasing the wealth of the state. For example, in Shelby county the vocational pupils tested 16,000 ears of seed corn one year. The yield from this tested corn, planted on 32 Shelby county farms, was 11 per cent greater than the yield on other farms in the county. This is only one of many examples which might be given, illustrating concretely the value of vocational training in home economics and industry as well as in agriculture. In the pages that follow the reader will find many other examples equally as striking.

The need is that vocational training be so extended that its benefits may accrue alike to all sections of the state. Thus far only one-fourth of the state has been reached by vocational schools. This bulletin is submitted to acquaint the public with the aims and purposes of certain phases of vocational training together with the work accomplished. It is recommended for careful reading.

Respectfully

BENJAMIN J. BURRIS

State Superintendent of Public Instruction

August 28, 1922

SOME RESULTS OF EIGHT YEARS OF VOCATIONAL TRAINING IN INDIANA

FOREWORD

When the vocational education law was enacted in 1913, Indiana was the fourth state in the Union to establish a state system of vocational education. The first vocational schools under the Indiana law were started in the school year 1914-15. The state has thus had eight years of experience with vocational schools. This is long enough to enable us to measure the value of vocational training in terms of some of the results obtained.

The distinctive aim of vocational schools is to train boys and girls for suitable vocations. This does not imply that the vocational courses are narrowly vocational, that their sole aim is to train for vocations. Indeed, under the state and federal laws, no full-time vocational course can be approved unless it provides a "well-rounded course of study", unless it provides a certain amount of time for those general education subjects which promote health and develop intelligent citizenship.

Nevertheless, one thing which distinguishes vocational courses from other high school courses is that the former aim definitely to train boys and girls for some vocation; the agriculture course, to train boys to be practical, intelligent farmers, capable of putting to everyday use the principles of science which are applicable to agriculture; the industrial or trade course, to train boys to be skilled mechanics, not merely skilled in the use of tools, but trained in a knowledge of the science, mathematics, and drawing needed in the trades; the home economics course, to prepare girls to be practical and intelligent homemakers, able to put to use the principles of science and art and social relationships which are applicable to the home.

To what extent have the above aims been realized by the vocational schools of Indiana ?
What use is made of vocational

training by those who have had such training? Of the boys who have had vocational instruction in agriculture in high school, how many become farmers? Does instruction in agriculture result in improved farming as shown by concrete results obtained by those who have had such instruction?

After a pupil has had a trade course in machine shop practice, for example, in high school, and leaves school to go to work, does he work at the machinist trade, and if so, what benefit does he receive from his trade training in school?

Does the vocational course in home economics actually function in the homes of the community? Is the instruction in vocational home economics used by the girls to bring about better homemaking in their own homes? Are the homemaking activities in any home in the community changed for the better because of the fact that the high school conducts a course in homemaking?

The pages which follow attempt to give answers to the above questions. These answers are mainly in terms of facts taken out of the experiences of boys and girls in Indiana who have been trained in vocational courses in agriculture, industry, and home economics.

WHAT BECOMES OF THE BOYS WHO HAVE HAD VOCATIONAL COURSES IN AGRICULTURE AND INDUSTRY?

The figures in Tables 1, 2, 3, pp. 24, 38, show that a large portion of the boys who have been trained in agriculture and in the trades are making use of this training after they leave school by working in the occupations for which they have been trained. The vocational schools in agriculture and industry are therefore performing one of the functions they are intended to perform, namely, to give vocational training to future farm workers and to future industrial workers, respectively.

There is every reason for feeling gratified at this record, especially when one thinks of the many difficulties which surround parents, pupils, and teachers in connection with the choice of a vocation by a pupil. Even after a vocation has been chosen and after training for that vocation has commenced, circumstances sometimes compel a change in plans.

BENEFITS OF VOCATIONAL TRAINING

In addition to the statistics showing what becomes of boys who have had vocational courses, this bulletin gives a number of concrete examples showing some of the benefits which boys and girls have received from vocational training in agriculture, industry, and home economics and how the practice of farming and the practice of homemaking in the community have been changed for the better as a result of ...vocational courses in the schools. Many more of these statements showing the benefits of vocational training could be obtained. We have presented only those which are typical, endeavoring to avoid unnecessary repetition.

WHAT PORTION OF THE STATE HAS BEEN REACHED BY VOCATIONAL SCHOOLS?

Although Indiana has every reason to be proud of its progress in vocational education thus far, the task is not yet complete. Last year over 23,000 pupils were enrolled in vocational schools, including evening and part-time classes as well as full-time classes in high school. These pupils resided in 341 different school corporations, which is about one-fourth of the total number of school corporations in the state. About three-fourths of the state, then, has not yet been reached by vocational schools.

Stated in other words, 50 counties have no vocational agriculture course, 61 counties have no vocational home economics course, and 67 counties have no vocational industrial course.

E. A. WREIDT
State Director of Vocational Education

SOME RESULTS OF VOCATIONAL TRAINING IN AGRICULTURE

STATEMENTS BY FORMER STUDENTS OF VOCATIONAL AGRICULTURE



Clarence Collicott, Greensburg

Clarence Collicott had three years of vocational agriculture at Greensburg high school and is now renting his father's farm on shares.

He says: "I think the course I took in agriculture is of great benefit to me, and my father also thinks so. For instance, my teacher and classmates treated seed oats for smut at my home. When my father came home and saw the oats he thought that we had ruined his oats, but when they were harvested he saw that the treatment had done a great deal of good. Since then we have been treating."

Rollin Meek took vocational agriculture at Greensburg high school for two years. He is now on his father's farm.

He says: "I am caring for an orchard of 45 trees, pruning and spraying. The trees and fruit are in much better condition than they were before I began to care for them. "The practice of seed corn selection in the field and germina-



Rollin Meek, Greensburg

tion tests were things that we did not do before I took the work. Also I learned more concerning the type to select.

"I had difficulty in getting my father to see that plowed ground left rolled down lost more moisture than if mulched. We are breaking our ground deeper."



Paul Buell, Greensburg

Paul Buell had two years of vocational agriculture at Greensburg high school. Since graduating he has been on his father's farm, having an interest in part of the livestock.

He says: "I was as ignorant about the better methods of farming, such as seed selection, feeding, soil management, and the value of pure-bred stock as if I had been raised in town. We now have on our place the entire herd of pure-bred Big Type Poland-China.

All of this started with the sow I bought when I enrolled in the sow and litter club. We liked the pure-bred pigs I raised so well that we just worked the entire herd over. We are now planning our first sale. It will be held some time this fall. We like the purebred hogs so well that we are changing our other livestock to pure breeds, finally having nothing but pure-bred horses, hogs, and cattle. We have changed our methods of feeding, using more nearly the balanced ration.

"In the management of the soil and crops, I understand much more why we rotate and what effect it has on the upkeep of the soil, and the way we are plowing; also we are doing field selection of seed corn, a thing we did not do formerly."

Mr. Buell says that the work Paul got in this course did him a wonderful amount of good, more than any other two years of schooling.



Robert Barnes, Greensburg

Robert Barnes had two years of vocational agriculture at Greensburg high school. He is now on the farm with his father.

He says: "I wish to state that the agriculture course has benefited me in many ways, as I am in a position to use the lessons daily. Especially in caring for the orchard, it taught me diseases, and treatment for them, and how important it is to spray.

"We saved at least twenty more pigs last fall than we would have if I had not taken animal husbandry. "I kept a record of the cows under the direction of the teacher which helped us to get rid of several cows that were not paying. Now we have a nice herd of pure-bred Jerseys."



Lowell A. Beavers, Mt. Summit

"I first secured one of a number of pure-bred Duroc gilts that the vocational teacher distributed to club members. This work led to a pure-bred hog sale and the success of the work helped very much to make vocational education a permanent thing in this community.

"My greatest experience was in livestock judging work in which I took part for two years. The first year I was fortunate enough to make the county team but failed to place at the state fair. The second year, however, after another season's training by the vocational teacher, I won first in the county and later first in the state. This gave me a \$100 scholarship in Purdue which I used in attending the short course.

"When I was a senior in high school I had decided to teach school but after my experience in vocational agriculture work and also at Purdue I thought better of my plans and went into partnership with my father in farming. I have never regretted this decision.

"The vocational department has been instrumental in starting corn, pig, poultry, dairy, calf, and other lines of club work and has put on many kinds of demonstrations such as gathering, storing, and testing seed corn; poultry culling; spraying and pruning of orchards; diseases and insect control. These activities have materially improved farming in our community.

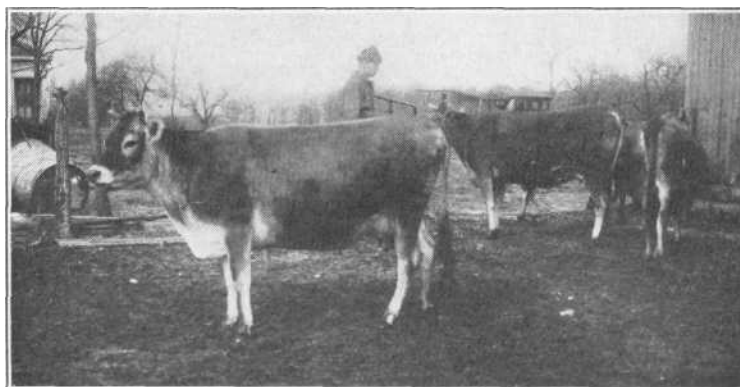
"I do not believe any community can afford to be without vocational work as I believe it is an uplifter of farming and starts the future generation of farmers on the right road." (Lowell A. Beavers, Mt. Summit.)



Ralph Nixon of D. W. Nixon & Son, Mt. Summit

"The two years of vocational agriculture which I took at Mt. Summit high school enabled me to begin breeding pure-bred hogs and cattle with my father, after leaving high school. I also raised much better corn than we had formerly raised.

"Four years ago I bought a sow which has proved to be one of the best we ever owned. She has produced several sale toppers and our best litters. This sow, alone, has proven to me that my time has been profitably spent in the vocational course." (Ralph Nixon, Mt. Summit.)



Clarence Chamberlin, Pendleton, and his foundation herd of Raleighs, started through club work. Secretary of Pendleton Jersey Cattle Club

"I believe vocational agriculture is the most vital subject that the farm boy can study. It trains him both mentally and physically and enables him to work out and apply new and more economic methods in farming. Benefits derived from the study of livestock breeding and feeding will be worth many dollars to vocational agriculture pupils." (Clarence E. Chamberlin, Pendleton.)



Clarence Rogers, Pendleton, coming in with his foundation herd of pure-bred Jerseys. These animals are all from club calves in the calf clubs of Pendleton high school

"Vocational education is the cheapest and most valuable way to get practical information on scientific methods." (Clarence Rogers, Pendleton.)



Richard Norvell, Shelbyville

Richard Norvell had one year of vocational agriculture at Shelbyville. He is now in partnership with his father on the home farm. He says: "The instruction in livestock has been very profitable. We aim now to grow pure-breds just as much as we can. studying vocational agriculture.

"For example, when we decided to sell most of our dairy cows, I kept milk records of the herd, and the increase in the price that we got for the cows, because we could show just what they had been doing, more than paid me for all the time that I spent studying vocational agriculture.

"Then there are many 'handy' ideas, like a hay-feeding rack and some feeding hoppers, that we have made use of. These handy ideas save much work and increase our profits. It is now hard to see how we ever got along without these devices.

"Our work in orchards got me started, and now I make our orchard pay by regularly pruning and spraying, and by setting out young trees to take the place of dying ones."

Glenn Reed, Veedersburg

"I was twelve years old when I became interested in the club work of Fountain County. This same year the Farmers State Bank of Veedersburg purchased 20 pure-bred Poland-China sows for the boys' and girls' clubs. I was lucky in getting one of the sows by signing a note for \$70.00 and agreed to give back two gilts in the fall.

"I made a few dollars and won a few prizes at shows. My success increased my interest and then I entered the poultry club. I now have a fairly good flock of Barred Rocks, which brings in a few dollars each week.

"In addition to the hogs and poultry I have a home apple orchard of 50 trees which is in excellent condition and bears enormous crops of apples. When I entered the high school the vocational agriculture teacher said if I would help him on the school orchard he would help me on my orchard, therefore I put up my work against his experience and now I am getting good results from the orchard.

"I also have 3,000 strawberry plants, 100 raspberry plants, and 50 currant and gooseberry plants which will come into bearing this year.

"Because of my interest and my successful experience my father turned the home farm over to me and now all the farm business is done through my name."

STATEMENTS BY VOCATIONAL INSTRUCTORS

Aurora

Floyd Miller was compelled to leave school because his father could not get along without his help on the farm. Although Floyd had only one year of the vocational agriculture course before he left high school, he has been very progressive and has done three noticeable things with their dairy herd: (a) he has an accredited herd now; (b) he has a

pure-bred bull from high producing dam and 10 fine bred Holsteins; (c) he has installed a DeLaval milker which the family couldn't operate successfully without him which caused him to drop out of school. His father operated a dairy of 25 cows.

Columbia City



Floyd Shook, Columbia City

Floyd Shook completed three years of the vocational agriculture course and is now living on a 240-acre farm. He is feeding cattle and sheep and milking a number of cows. He will also do the spraying for the ring just organized by Mr. Burkholder in this county. This is the first spray ring for Indiana.

I have several boys who have changed their fathers' minds regarding fertilizers. Some have shown what can be done with poultry, others have been materially benefited by pig club work, others have caused the old neglected orchard to be renovated.

Crawfordsville

Manson Campbell is now a senior in Crawfordsville high school completing his fourth year as a student in vocational agriculture.

When I went after this boy to interest him in the vocational course, he had started to work in a tin shop in town—had given up entirely the idea of completing a high school course. Manson's father was a farm laborer, working



Manson Campbell, Crawfordsville

by the day. The family owned one cow but no other stock of any kind and no farm tools or draft animals.

The boy chose as his home project the care of a sow and was one of six boys who formed the nucleus of our first pig club. During his first year he made enough from his sow and litter to pay for the sow and for all his clothes and school expenses with some left in the bank for a nest' egg. Best of all, however, his parents caught the enthusiasm he radiated and planned for better things.

Two years ago the boy and his father rented a farm on shares, owner to furnish everything and give them one-third. The change in the family was remarkable—their success was so marked as to bring to them a much better offer for the past year, the third since the boy began the vocational course. They made enough to purchase tools and horses, and the past year has seen them equal partners with one of Montgomery County's best known swine breeders, with the boy owning, fully, a herd of five sows and one richly bred boar of the Durocs, which were his original choice.

Manson Campbell looks forward to a course at Purdue following his graduation this year from high school—a course made possible by profits from his own hogs. His father is so happy in their improved circumstances that he can hardly contain himself when talking of the benefit the work has been to the boy and to him.



William Ramsay, Crawfordsville

William Ramsay is now in his third year of the vocational agriculture course at Crawfordsville. He was in club work before entering high school. Ramsay is a confirmed hog farmer. Since he bought his first Duroc gilt he has stuck by that breed and can talk pedigrees, feeding, and breeding with the most experienced farmer in the Duroc Association.

Twice since starting the vocational work he has been a winner in the pig club contests at the state fair. Last year at the Annual Club Round-up at Purdue he was a member of the team that won the swine judging contest. Twice the gilts,

fed by him, in preparation for the fair contest, have topped the annual sale held by his brother Paul and himself.

In addition to his hog project work, this boy has for two years had a flock of pure-bred Rhode Island Reds, getting his start through eggs set as a poultry project his first year in the vocational course. These Reds have now entirely displaced the flock of mixed fowls formerly kept on their farm, and among the birds are many of real show quality.

William's mother is a widow and the two sons are running the farm, this boy doing a full share of all farm operations.



Robert Bales, Crawfordsville

Frank Bales, Darlington, Indiana, Montgomery County, is the father of five boys. The three older boys upon completion of high school and college "went to town" and have never had any desire to return to the farm.

Robert, his fourth son, started to Crawfordsville high school the first year I came here as vocational teacher. He did not elect this course when he entered, but following a talk I made in assembly three weeks after school opened, he changed his course and has now been a vocational student three years and a half, will graduate in June, and plans to enter Purdue in the fall, taking the agriculture course.

Robert elected the "sow and litter" for his project, choosing the Duroc breed. Mr. Bales had little hope at the beginning that his boy would even carry his first year's project to a finish, but he has seen the crystalizing of the boy's purpose to become a farmer and we have now no more enthusiastic supporter than he. At the end of the first year, he told his boy that if he would agree to go ahead with the farm he would buy a good boar and other sows and go "fifty-fifty" with him, and turn the farm over to him when he was ready for it. Robert took him up on the hog business but told him "I don't want this farm. I don't want the boys ever to be able to say that you favored me. I shall have a farm of my own."

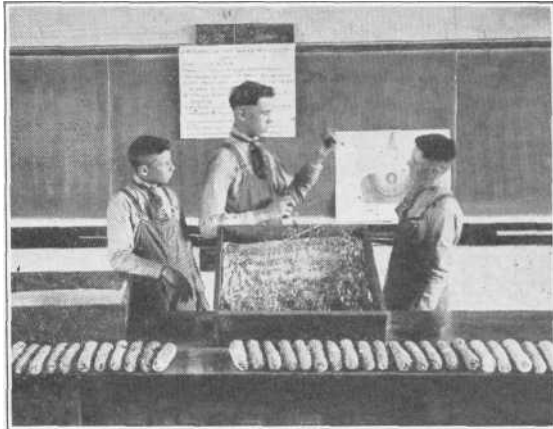
Today Bales and Son have a splendid herd of Durocs. Their

farm has been named and the farm name given to their herd of Durocs. The father has in addition what he values above all the material possessions—the co-operation, sympathy, and intimate companionship of a son.

Forest

Owen Evans took two years of the course in vocational agriculture at Forest. He is now farming 160 acres in partnership with his father and doing good work. He tested seed corn for diseases last year and secured an increase of 15.25 bushels per acre over that of corn not tested. The tested seed gave an average yield of 87 bushels per acre, an increase of 21 per cent over the yield of the corn not tested.

Frankfort



Vocational boys, Frankfort, reading results of corn test for root-rot disease

Cleo Brock, a last year graduate, is head cream tester at Schlosser Brothers Creamery. He learned how to test milk and cream in the agricultural laboratory.

Wilfred Young, a 1-though at present attending Purdue, is owner of some pure-bred Hereford stock and exhibited one in the 1920 International Livestock Exposition at Chicago. He had three years of the vocational agriculture course at Frankfort high school.

Kenneth Cohee, also a Purdue student, has made his mark in the potato club. He has been in the potato club three years. Through selection of seed, fertilizing, and spraying he has increased his yield from 148 bushels per acre to 240 bushels per acre.

Robert Irwin showed up the "dads" in corn growing by winning the county 5-acre corn contest.

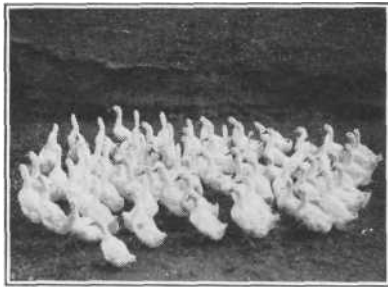
Loogootee

Clarence Hopkins convinced both his father and his two brothers who were farming for themselves that pure-bred livestock pays. None of these had ever had a pure-bred animal on the farm until Clarence secured a registered gilt in the White River Bank sow and litter club and cared for it according to methods learned in his school work. A fall litter from this gilt that was fed out with a litter from one of the other sows on the farm averaged just 56 pounds heavier than their scrub pen mates the next spring. Clarence is in the agriculture class at Purdue this year and his brother has purchased a registered Shorthorn heifer and some pure-bred Poland-China gilts.

John O'Neal started a partnership with his brothers during his high school course in breeding Poland-China hogs, Shorthorn cattle, and Percheron horses, all registered. He also tested their seed corn, limed their hill ground, and started a young orchard. John could not see his way clear to go to Purdue as he and his two brothers had started so many things during his high school course that he did not think that it was advisable to leave now. They are making good.

Ninety per cent of the boys who have taken vocational agriculture here are breeding or caring for pure-bred livestock.

Mooreville



Clifford Anderson's ducks
Mooreville

Clifford Anderson began club work six years ago by joining the boys' and girls' poultry club. His flock now numbers 500 laying hens— Rose Comb White Leghorns. In 1921 he was the outstanding poultry club member in the state, having won the trip to the International Livestock Show.

Clifford has also sent exhibits to the poultry shows at Chicago and at the Indiana State Fair, winning numerous ribbons. At one show in Chicago and once at the Indiana Fair he practically swept the boards of prizes on young stuff.

Clifford's poultry work has not been confined to chickens as he and his mother (they are partners) have ducks and geese also.

Like most boys, Clifford wanted to branch out and learn more than one thing so he joined the pig club and selected work with Spotted Poland-Chinas. Before he started the pig club work, the home farm had various breeds and cross breeds of swine. Today nothing but Spottedts (about 100 head) can be found on the place.

Clifford has also won prizes at the State Fair and Purdue in the pig club show, livestock judging, and egg judging. He has been enrolled in vocational agriculture classes at Mooresville for three and a half years.

New Salisbury

John Ems, a member of the present sophomore class in vocational agriculture, has three registered Duroc sows from his start in the sow and litter club and is in partnership with his father in the hog business. All the hogs on their farm are registered now due to the fine showing of the club litter.

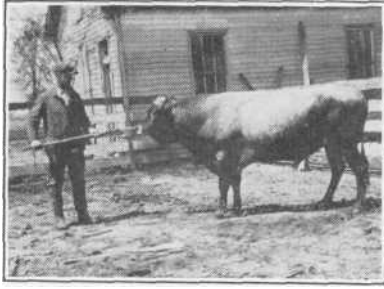
John raised 88 bushels of Burbank potatoes last year on three-eighths of an acre. The seed was selected by himself. The majority of the potatoes here failed last year. This season he planted one-half acre with certified Rurals and plans to sell seed stock next year. He rents the ground from his father.

Seymour



Maurice Montgomery, Seymour

Maurice Montgomery and his brother are operating their widowed mother's farm. Maurice joined the Jersey calf club and after three and one-half years in the vocational course is "making it go." His original calf club heifer and two of her heifer calves compose his herd but he is planning to build from them. "The agriculture work has kept him in school and encouraged him greatly." (Mrs. Enola Montgomery.)



William Brackemeyer, Seymour

William Brackemeyer joined the Jersey calf club and later induced his father to purchase him a pure-bred bull, the first in his neighborhood. He spent two years in the vocational course and is now farming with his father. William is a member of the cow testing club. They have a male and three females, all registered, and are rapidly developing a pure-bred Jersey herd. "I became interested in pure-bred stock while studying dairying in the vocational class." (William Brackemeyer.) "That testing was a fine piece of work." (Mr. W. O. Brackemeyer.)

Warsaw



Class culling poultry on one of the patron's farms. The father takes instruction with the boys. Warsaw

Forest Tinkey grew potatoes at the rate of 320 bu. per acre. Father's crop next to it, 1/4 as much. Warsaw



STATEMENTS BY PARENTS
W. R. Campbell, Crawfordsville

"Does vocational education pay? Being the father of a vocational boy I would say yes, and say it earnestly. Three years ago this February my boy wanted a gilt of his own for his vocational project. Arrangements were made, with a Duroc breeder for a gilt. I worked by the day so I did not have any time to take care of the gilt. My boy worked and bought his own feed, and at the end of the year he had paid for the sow and all the feed and had one bred gilt and the sow left besides buying all of his own clothes.

"The next year we rented a farm of 160 acres in shares, everything furnished, getting one-third. Now we have five sows and as good a boar as there is in the county, besides one-third interest in fifty sows and seventy pigs.

"I say the vocational work pays."

McClellan Brown and Son, Russell, Elwood

"I, Russell, was raised on a farm and have always lived there, but since I have taken the course in vocational agriculture, I have learned more concerning farming than I ever knew before. We have also made a wonderful improvement on our corn, hogs, poultry, and dairy cows. Many other farms in this community have also improved greatly. We regard vocational agriculture as one of the best subjects than can be taught in high school."

C. A. Young, Frankfort

"I think vocational agriculture is a very valuable subject in the high school. It not only helps the boy from the farm but his parents also. It brings the projects of Purdue University to the farm folks in a way that is most striking and the family receives some lessons in efficiency from the projects carried out by the students in vocational agriculture. I heartily commend the vocational work."

Porter Elsea, Frankfort

"I think the agriculture course taught in high school is a great help to the farm boy of today as it enables him to form a

better idea of farming and also makes him a better and more profitable farmer."

Frank Borders, Loogootee

"I think vocational agriculture is a fine thing for the farmer as well as the boys. It has been a great help to my son. I also have learned a great many things which have been of great help to me. I will give my support to the work in the school whenever needed."

Jerry K. Beavers, Mt. Summit

Father of Lowell A. Beavers

"Vocational work has been a great benefit to the farmers of this vicinity. It has been especially beneficial to me in caring for my hogs and fruit trees. I have gained much information from my son's experience in vocational work and will be glad to see the work continue."

E. E. Chamberlin, Pendleton

Father of Clarence Chamberlin

"Vocational agriculture is one of the best subjects taught in public schools. I believe the money used for vocational training is as well or better spent than that used for a great many other subjects."

K. M. Hallowell, Pendleton

"I think vocational agriculture is the thing and am for it."

George A. Rogers, Pendleton

"I am proud of the fact that our third and last son graduated from high school with four years of vocational training, putting him abreast of others graduated ten years before who did not have the opportunity to study vocational agriculture. If four years of agriculture equips one to start ten years in advance of the academically trained, what are the opportunities of a lifetime?"

**STATEMENT BY THE STATE SUPERVISOR OF AGRICULTURAL EDUCATION
Z. M. Smith**

The class in vocational agriculture at Shelbyville demonstrated the value of testing seed corn for germination and disease. One year this class tested 16,000 ears. The tested corn was planted on thirty-two Shelby county farms. Records on test fields and check fields showed that the tested seed produced a total increased yield of 11 per cent. Similar work was done by pupils in the schools at Greensburg, Pendleton, 'Greenfield, Metz, Spencer, Morristown, Frankfort and many other places.

Gradually the improved rag doll and sawdust or sand testers have come into common use on Indiana farms as a result of the work done by public school pupils.

Plant Only Tested Corn

In all parts of the state farmers will not plant corn that has not been tested for vitality and disease. In many instances the corn is tested for the farmers by the agricultural class in the home school. A great deal of prejudice on the part of parents had to be overcome before the value of testing seed corn could be demonstrated in a practical way by the boys.

Improving Dairy Interests

The schools have done a notable work in the improvement of the dairy interests of the state. Many unprofitable cows have been sent to the block as a result of the records which school boys have kept of their Babcock tests for butter fat and of the amount and kinds of feed used. In many cases good cows have been discovered by the boys and have been made even more profitable by the care given them and the rations fed in accordance with information obtained at school. In several counties pure-bred herds have been started by importing pure-bred calves or heifers and by distributing them among pupils who have organized and conducted their work as a club group.

In Boone county 51 imported pure-bred Guernsey calves have been bought and developed into producing cows by boys and girls. Fountain, Wells, Marshall, Carroll, Posey, Clark,

Dearborn, and Bartholomew are among the other counties whose boys and girls have developed pure-bred dairy herds. One teacher of vocational agriculture has in two years been influential in bringing into his community 15 registered Shorthorns, 5 Holsteins, 20 Jersey heifers, 3 Jersey bulls, and one Holstein bull.

Orchards

Fruit and vegetable growing have received a great deal of attention in the schools in all parts of the state. Budding, grafting, pruning, and spraying of fruit trees have been practiced extensively by pupils, and in many instances the entire management of the home orchard has been intrusted to the boy who has studied agriculture in school. In many districts the class in agriculture takes charge of an orchard on a contract basis. The profits are used to purchase equipment for the agriculture laboratory or for other means of promoting the teaching of agriculture. Brazil, Greensburg, Greenfield, Columbia City, Veedersburg, West Lafayette, and West Point are a few of the numerous schools that have successfully conducted orchard project work.

Clover and Alfalfa

Purity tests with clover and alfalfa seeds which have been made by the pupils in vocational agriculture courses have netted the farmers of the state an amount equal to a snug fortune.

WHAT BECOMES OF THE BOYS WHO HAVE HAD VOCATIONAL COURSES IN AGRICULTURE?

Table 1 below shows that of the 711 boys in Indiana who have had one year or more of vocational training in agriculture in high school, and who are at work, 76 per cent are engaged at farming, the occupation for which they were trained.

Table 1. Boys Who Have Had One Year or More of Vocational Agriculture in Indiana. May 1922

Number of schools	60
Total number of pupils having one or more years of training	2,531
Number still enrolled in the vocational course	1,422
Number still in high school but in other courses	248
Total number left high school	861

The 861 who have left high school are accounted for as follows:

(1) No further data available	46
(2) In college (total)	104
(a) In agricultural course	36
(b) In other courses	68
(3) At work (total)	711
(a) At the work for which they were trained	542
(b) At other occupations?	169
PER CENT WHICH (a) IS OF (3)	76

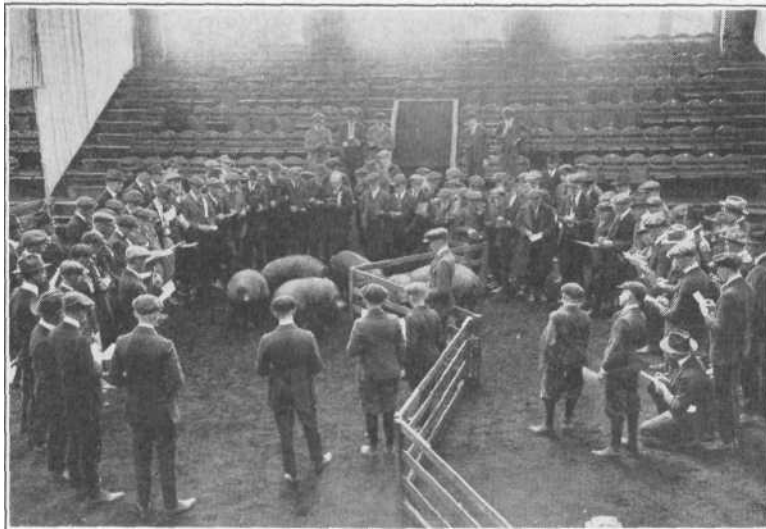
In 22 agriculture schools all (100%) of the boys who have had one year or more of the vocational course in high school, and who are at work, are engaged at farming. This involves 102 boys in the 22 agriculture schools.

These figures show that the Indiana vocational schools in agriculture are performing one of the functions they are intended to perform, namely, to give vocational training to future farm workers.

It is also interesting to note that boys who have taken the vocational course in agriculture, which prepares them to be farmers, are also able to meet college entrance requirements. As shown in Table 1, 104 boys who have had one year or more of the vocational course in agriculture were in college; 36 of these boys were in the college agriculture course and 68 in other courses.



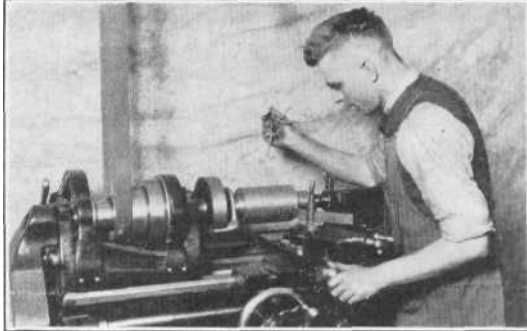
Public school pupils judging corn in a state contest at Purdue University. Between 1,300 and 1,400 boys were trained in the public schools for this state contest



Public school pupils judging swine in a state contest at Purdue University

SOME RESULTS OF VOCATIONAL TRAINING IN TRADES

STATEMENTS BY EMPLOYERS, STUDENTS AND INSTRUCTORS



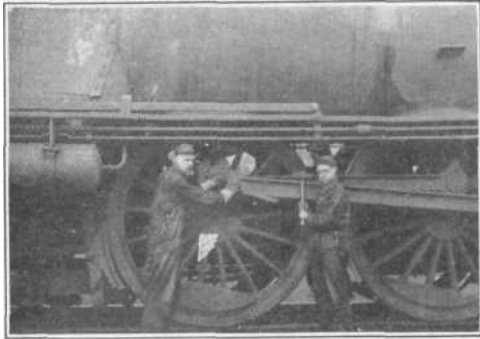
Carl Brewer, South Bend

Carl Brewer, trained in the machinist course in the South Bend high school, is now employed at the South Bend Lathe Works. J. J. O'Brien, a member of that firm, says: "We have had approximately 25 of these boys and find them very satisfactory workers. Their training has made them more efficient, more interested, and more intelligent workers. This kind of training is of great advantage not only to them, but also to the South Bend Lathe Works."

Malvin Minor took the Richmond vocational machinist course and is now with T. A. Robinson Garage and Machine Shop, Richmond. He is an all-round mechanic. Mr. Robinson says: "These are dull times but if you have any more as good as this young-fellow, send them around."



Malvin Minor, Richmond



Ralph Hosack, right; Clark Palmer, left,
Richmond

Ralph Hosack and Clark Palmer, who took the Richmond vocational course for machinists, are completing their time as machinist helpers this year at the Pennsylvania R. R. shops. This picture shows them as they were caught on the job, replacing a journal on a big passenger locomotive. Superintendent Pfafflin is enthusiastic about these boys. He states: "They learn and are willing workers. It will not be long until they will be full fledged railroad machinists able to go ahead and do any job. Their school training shows in their work. Count on us when you have boys like these."

Edward Wentz, another graduate of the Richmond vocational course for machinists who works in the Pennsylvania shops is a journeyman machinist. He was not on duty at the time the above picture was taken.

Omer B. Coons took two years of the sheet metal drafting course in the evening school at Crawfordsville. While taking this course he was making tanks in the Crawfordsville Wire and Nail Company but was shortly transferred to the sheet metal department and later was made foreman of this department.



Omer B. Coons, Crawfordsville

Harold Stamback and Paul Boomershine took the Richmond vocational printing course and are now with the Nicholson Printing Company. Stamback works in the composing room while Boomer-shine works in the press room. A third former student, Donald Burkhart, is employed in the press room. Superintendent Wolfe says: "Three first-class young fellows. Your course is a fine thing."



Harold Stamback, right; Paul Boomershine, left, Richmond



Arthur Williams, Richmond

Arthur Williams who took the Richmond vocational printing course now holds down the advertising foremanship in the Palladium Printing Company. Mr. Williams was the first student to complete the course. His merited advancement has come to him largely as a result of the course plus hard, earnest work. Superintendent Whisler stated that he considered Mr. Williams his right hand man.

Hubert Rhodes took two years of the vocational printing course at Anderson. He has been working in the printing department at Remy Electric Company for less than two years and now has complete charge of the department.



Hubert Rhodes, Anderson



Earl Ballinger, Richmond

Earl Ballinger, who took the Richmond vocational machinist course, is in business with his father in the Ballinger Machine Repair Shop. They do a general machine business and young Ballinger can handle any job that comes to them. His father says: "We consider the lad an all-round hand and call on him for any kind of work that any of the other men do."

Elmer Hurrell took one year of the Richmond vocational pattern makers' course before graduating from senior high school. He has entered into partnership with his father who owns and operates the Empire Brass Foundry. "I have one regret," Elmer said, "and that is that I could not complete the course."



Elmer Hurrell, Richmond



Harold Ritchey, right; Russel left, Richmond

Harold Ritchey and Russell Stevenson took the Richmond vocational printing course. They are now employes in the press room of Demis Coe Printing Company. Both are journeyman pressman. Mr. Coe in discussing this pair, stated that his forty years of experience had not developed a more promising couplet of printers.



Robert M. Tate, Anderson

Robert Tate completed the two-year course in vocational drafting at Anderson and then worked in the drafting department of the Midwest Engine Company of Anderson. He is at present designer at the National File Co. Mr. C. E. Records, speaking for the Midwest Company, states: "He can execute an excellent drawing and he is much farther advanced than one would expect from a boy of his age. He also shows excellent mechanical ability."

Webster Rankin and William Hensley took the Richmond vocational machinist course and are now lathe operators for Richmond Piston Ring Company. Hensley supports a widowed mother and a small brother. His training was in part time and night school. His young brother has applied for a place in the regular vocational machinist course. Webster Rankin plans to get into a tool room and learn that trade. He has been out of school one year.



Webster Rankin, right ; William Hensley, left, Richmond

Roy Plummer, Richmond

Roy Plummer took the Richmond vocational course for machinists. Upon graduation he entered the machine tool department of the National Automatic Tool Company where he was transferred to the drafting and design department. Because of his all-round training in machine work, drawing and applied mathematics he advanced steadily to a draftsman's position. Before enlisting in the navy he worked as a draftsman for the Duro Pump Company. When the war

closed he returned to his former employer, The National Automatic Tool Company.

This year he entered Ohio State University to take a mechanical engineering course. He was influenced by his employers and friends to make this move based on his previous success as a result of the vocational course in high school and a willingness to do hard work.



Glen Tracy, Muncie

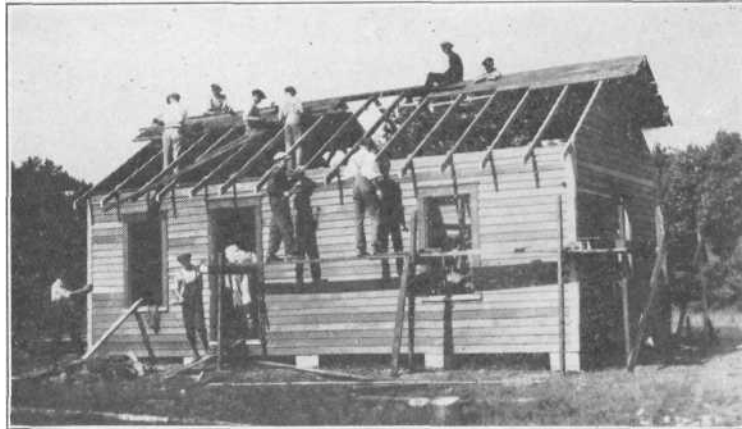
Glen Tracy took the vocational drafting course at Muncie high school and is now employed in the drafting department of the Warner Gear Company, Muncie. The chief draftsman of this company states that Glen was able to secure this position because of his training in the vocational drafting course.



Malcolm Meek, Richmond

Malcolm Meek, who is taking the Richmond vocational course for draftsmen is, in addition, reporting building contracts for the F. W. Dodge Construction Reports Company and doing special assignments in a local architect's office. During summer vacation he works in an architect's office. He is an honor roll student. His case is a fine example of a boy getting into the right course. Previous to entering this course he was out of school for a time and had a poor record while in school.

Paul K. Mitchell is a graduate of the Kokomo high school. He had two years of the vocational drafting course and has been employed for over a year in the drafting room of the Haynes Stellite Company. During the industrial depression, this company laid off a part of the drafting force that had worked for the company much longer than Mr. Mitchell, but they have retained him and have increased his salary three different times within the last year.



Work being done by vocational classes in building trades. Petersburg

Harold Eastus took the vocational drafting course at Muncie high school and is now in the drafting department of the Hemingray Glass Company, Muncie. Mr. F. M. Crapo, speaking for this company, says: "He is doing work that is entirely satisfactory and seems to be well grounded in fundamentals. We are at all times glad to co-operate with the vocational drafting department of the Muncie high school."



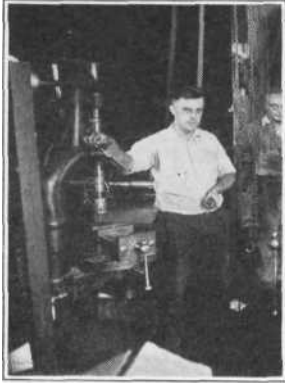
Church designed by Charles H. Lutes, Vincennes

Charles H. Lutes spent one year and a half in the vocational drafting and carpentry course in Vincennes and later secured a position as architectural draftsman with a firm in French Lick. The church in the picture is located at Dale, Indiana, and was designed by Charles.

Frank W. Raab, South Bend

"I have installed a new 8x12 Gordon Press with power fixtures. This will enable me to do more work. I now handle

five to ten jobs a week. This brings me a good profit and will enable me to finish high school and have an established business. I greatly appreciate the instruction and encouragement received in the vocational print shop in high school." (Frank W. Raab, South Bend.)



J. C. Cotner, in foreground, Logansport

J. C. Cotner took four years of the vocational drafting course in the evening school of Logansport, having previously taken some mechanical drawing in the day high school. He states: "I was more than pleased to have an opportunity to continue my study of drafting in the evening school. This training enabled me to secure employment as a draftsman. I was later promoted to the position of assistant chief draftsman in the plant of a large truck manufacturer. I am now in business for myself."

Laddo Maly entered the Anderson evening school in the fall of 1915 when he was working as a common laborer at the Remy Electric plant. After completing 20 weeks (2 terms) in the evening school he was put in the pattern shop of the Remy plant where he is now a journeyman pattern maker.



Laddo Maly, Anderson

Terre Haute Battery Co.

"We are in need of another young man for our electrical department. This will be a permanent position and we ask that you recommend one of your graduates to us.

"Young Powell, whom you sent us for Saturday work some months ago, is highly satisfactory and we will use him steadily all summer, but he tells us he must return to school next fall.

"We should be ungrateful if we did not express at this time our appreciation to you, as principal of the boys' vocational school, for the service your splendid institution is rendering the automotive industry in this locality. We have heretofore been compelled to take in green boys, and train them as best our time and ability would permit. Our time and patience, to say nothing of our ability, have been so limited that we usually had to keep a boy from six months to a year before he was of any value to us, but now with your staff of specialized boy trainers you equip them with the peculiar knowledge that makes it possible for them to earn the minute they enter our shops.

"In wishing you continued success with your splendid work we believe we voice the sentiments of the combined automotive industry of Terre Haute." (J. B. Sullivan, Terre Haute Battery Co.)

Remy Electric Co., Anderson

"The Remy Electric Company considers vocational training as given in the Anderson high school of vital importance to all industries in this community. The boys who have completed their vocational training course in high school have made good operators in much less time than boys who have had no training along this line. We also watch with interest any of our employes who attend the night classes and encourage them to attend.

"We have been much benefited by the 'foreman training-course,' and we are planning to continue this course at our own expense. In order to do this we are sending one of our foremen to school in Minneapolis to prepare himself to train the foremen." (T. E. Jenkins, Manager Employment Department, Remy Electric Co., Anderson.)

T. H. I. & E. Traction Co., Terre Haute

"We have employed quite a number of vocational school students and have found their work very satisfactory and very helpful to us. In my opinion the training you give in your vocational school (Boys' Vocational School, Terre Haute) should be a very big asset to any student who plans to follow that particular line of work." (G. O. Nicolai, Superintendent Light and Power, T. H. I. & E. Traction Co., Terre Haute.)

Engles Motor Co., Terre Haute

"We have had two boys that have been through your training and find they are very capable and quick to take hold of our repair work. Their moral training is very good along with their mechanical training, and from our experience we feel that your work is very valuable to the automobile industry and gives the young generation a training that is going to be very valuable to themselves as well as to the general public." (Wm. A. Engles of Engles Motor Company, Terre Haute, Indiana.)

Arvac Manufacturing Co., Anderson

"We are absolutely sure that the Anderson evening school has done a great deal of good. It has created an interest in mechanics at this plant which would cost us a considerable sum of money to duplicate." (B. G. Kramer, Superintendent Arvac Manufacturing Co., Anderson.)

St. Joseph Valley Typothetae

"A number of boys, trained in the vocational print shop of the South Bend high school, are now employed in different printing establishments of South Bend. The training they have received in school has enabled them to earn more at the start, to advance faster, and to become more valuable to themselves and to their employers. We will be very glad to co-operate with the school print shop at any time we can be of service." (W. A. Meeks, Exec. Sec. St. Joseph Valley Typothetae, South Bend.)

STATEMENT BY THE STATE SUPERVISOR OF INDUSTRIAL EDUCATION

H. G. McComb

Following are some of the ways in which manufacturers and vocational industrial schools are co-operating in Indiana:

In one Indiana city a student had received an all-round training in cabinet making and related drafting. Shortly afterward he entered the employ of a furniture firm. Some new designs were being worked out. The employer needed a man who could make a complete piece of furniture. He found the man

in this young school-trained workman and shortly advanced him to the position of foreman. In many other cities and in other trades, boys receive this all-round training and employers recognize its value.

Through an arrangement made by the employers and the vocational director of a certain city, the advanced trade students worked in the industrial plants instead of the school shop for four months. The employers had an opportunity to test out some trained and intelligent boys and the boys had an opportunity while still in school to test their own training and ability. All these boys found employment the day following the close of school. The "try-out" period had been passed. The employers called for more co-operation of this sort.

In many cities the manufacturers look to the school for many odd jobs of machine work. The firms send blue prints to the vocational school and furnish materials including steel and castings in the rough. In the vocational school shop the boys plane, turn, mill, or otherwise work this material within the limits stated in the specifications. After a student has developed considerable skill he has an opportunity to test his ability in the making of drills, reamers, and other tools. All these projects must meet the regular standards of the trade since they are turned over into industry when completed. The boys are thus trained on production jobs. Since the aim of the vocational school is not production but the training of boys, such production jobs are limited to the number and the kind needed to give the boys a good practical training.

In one vocational school shop, an attachment to a drill press was designed and built for a manufacturer. This attachment enabled the manufacturer to reduce three drilling operations to one.

WHAT BECOMES OF BOYS WHO HAVE HAD VOCATIONAL COURSES IN TRADES?

Table 2 below, for the full time industrial or trade school, shows that of the 226 boys who have had one year or more of vocational training in a particular trade, and who are at work, 79 per cent are at work in the particular trade for which they were trained. This means, for the per cent stated, that if a boy was trained for the machinist trade he is now

at work in the machinist trade, and if he was trained for the printing trade he is now at work in the printing trade.

Table 2. Boys Who Have Had One Year or More of a Vocational Industrial Course in Indiana. May 1922

Number of cities	11
Number of courses	25
Total number of pupils having one year or more of training	724
Number still enrolled in these courses	310
Number still in high school but enrolled in other courses	110
Total number left high school	304

The 304 who have left high school are accounted for as follows:

(1) No further data available	49
(2) In college (total)	29
(a) In industrial courses	23
(b) In other courses	6
(3) At work (total)	226
(a) At the occupations for which they were trained	178
(b) At other occupations	48
PER CENT WHICH (a) IS OF (3)	79

In ten industrial courses, conducted by six cities, all (100%) of the boys who have had one year or more of the vocational industrial course in high school, and who are at work, are engaged at the particular trade for which they were trained. This involves 90 boys in the ten industrial courses.

The above figures show that the Indiana vocational industrial schools are performing one of the functions they are intended to perform, namely, to give vocational training to future trade workers.

It is also interesting to note that boys who have taken the vocational industrial course, which prepares them to be skilled workmen in trades, are also able to meet college entrance requirements. As shown in Table 2, twenty-nine of the boys who have had one year or more of the vocational industrial course are in college; twenty-three of these boys are in college industrial or engineering courses, and six are in other college courses.

The 226 boys (Table 2) who are at work, had received training in nine different trades in high school. Table 8 shows the particular trades in which these 226 boys had been trained and also gives for each trade the per cent of boys who are at work in the trade for which they were trained.

Table 3. Particular Trades in Which Boys Have Been Trained. May 1922

Trade Course	Number of cities reporting	Total number at work	Per cent at work at the occupation for which they were trained
Architectural drawing	1	10	100
Foundry.....	1	2	100
Auto mechanics.....	1	12	92
Machine shop.....	5	64	89
Printing.....	4	33	82
Electrical work.....	3	34	76
Pattern making.....	3	10	70
Drafting.....	6	35	63
Architectural drawing and carpentry.....	1	26	61
Total.....	25	226	79 (average)