

Kentucky FARM AND HOME *Science*

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READ—

**Career Plans of
Rural High
School Seniors**

**New Poultry
Research Farm
In Operation**

**Kentucky
Research Results
In Brief**

Kentucky FARM AND HOME Science

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KENTUCKY AGRICULTURAL EXPERIMENT STATION

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The Cover



These random-bred chickens are being used in breeding experiments to develop meatier broilers at the U.K. Agricultural Experiment Station's new Poultry Research Farm. For more details about the farm, located about 2 miles west of Lexington on the Leestown Road, see the illustrated article starting on page 4 of this issue of *Kentucky Farm and Home Science*. (Photo by R. C. May.)

Career Plans of Rural Kentucky High School Seniors

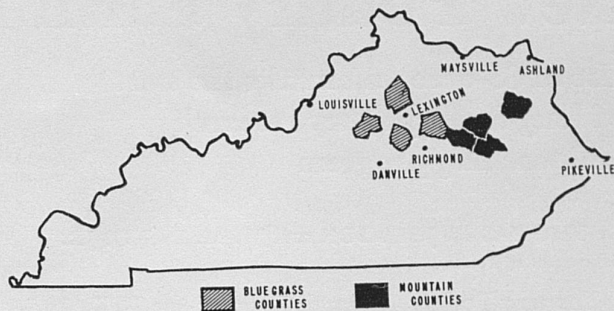
By HARRY K. SCHWARZWELLER
Department of Rural Sociology

As young people approach graduation from high school, they must begin formulating some very serious plans about their future careers in the work world. What they decide depends, in part, on available opportunities and, in part, on their own personal abilities and interests.

A recent U. K. Agricultural Experiment Station study was designed to determine the pattern of career plans of seniors in rural Kentucky high schools, and to find out how certain social and cultural background factors affect the career-choosing process.¹ The information was obtained by questionnaire in the spring of 1959 from 248 girls and 203 boys in the senior classes of 8 county high schools, 4 in

¹ More information about this study and findings appears in the author's "Sociocultural Factors and the Career Aspirations and Plans of Rural Kentucky High School Seniors," Kentucky Agricultural Experiment Station Progress Report 94.

Migrating from home county after completing school is a serious consideration for them



Location of the eight counties included in the "career" survey. The shaded areas designate the four "Bluegrass" counties; dark areas are the "mountain" counties.

the Central Bluegrass Region (Jessamine, Anderson, Scott, and Clark counties) and 4 in the Eastern Mountain Region (Powell, Menifee, Wolfe, and Elliott counties).

Regional Comparison

The Eastern and Central Kentucky seniors exhibited much the same pattern of choice in their vocational and educational goals. In both regions, similar proportions of high school seniors planned to go to college, and similar proportions planned on high-status occupational careers such as the professions.

However, as anyone familiar with the economies of these regions might anticipate, a much larger proportion of Eastern Kentucky seniors plan to leave their home counties and pursue their careers elsewhere after finishing school. Approximately 55 percent of the Eastern Kentucky senior boys said they planned to migrate, compared with 34 percent of the Central Kentucky boys. About 63 percent of the Eastern Kentucky girls planned to migrate, compared with 40 percent of the Central Kentucky girls.

Furthermore, Eastern Kentucky seniors, as a group, expressed more uncertainty about their career plans than seniors in Central Kentucky schools. Career opportunities for youths are quite different in these two regions, which is reflected in the differential

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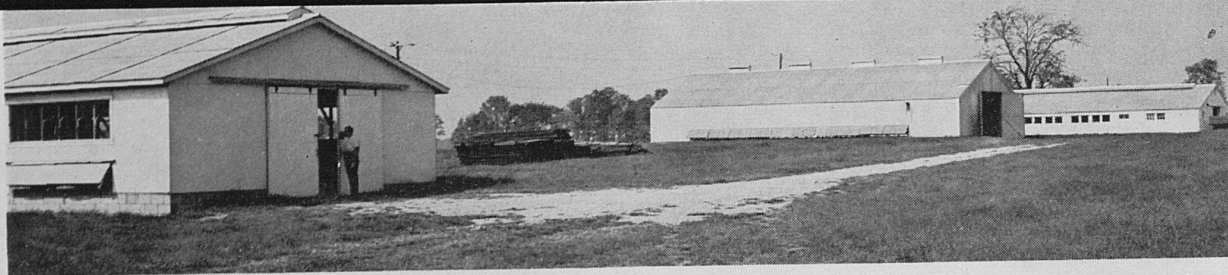
		Yes	Don't Know	No
Plan To Go To College	BOYS	35%	31%	28%
	GIRLS	29%	43%	28%

		Yes	No
Plan For High Status Occupation	BOYS	32%	68%
	GIRLS	23%	77%

		Yes	Don't Know	No
Plan To Leave Home County	BOYS	42%	29%	29%
	GIRLS	51%	33%	16%

		Yes	No
Prefer Urban Residence	BOYS	49%	51%
	GIRLS	68%	32%

Career plans of senior boys and girls in eight rural Kentucky high schools (248 girls and 203 boys).



In these three buildings various phases of work are being done at the Poultry Research Farm. (left) The "Homosote" house in which reproduction and management studies are

conducted; (center) the Reynolds aluminum cage layer house used for nutrition work, and (right) the breeder house used for studies on improvement of meat-type chickens.

New Poultry Farm in Operation

Use of 89-acre unit marks the start of long-range poultry research and teaching program

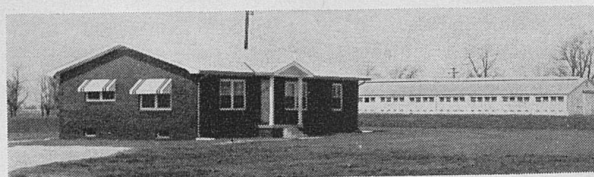
By THOMAS H. JOHNSON and W. M. INSKO, JR.

Department of Poultry Science

The new Poultry Research Farm of the U. K. Agricultural Experiment Station is in full operation. The 89-acre research unit is located on the Leestown road, adjacent to the west side of the U. S. Veterans Administration Hospital, west of Lexington. Use of the facility marks the beginning of an expanded long-range research, and teaching program by the Poultry Science Department.

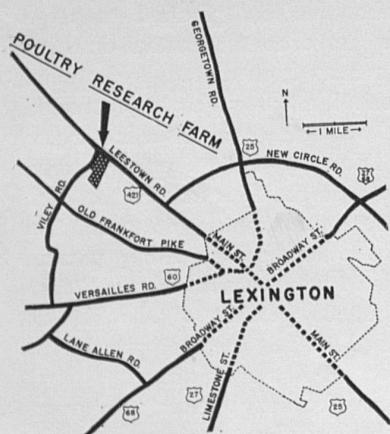
At the entrance a main road runs south to a feed mixing center and an equipment storage area. On the way one passes the residence of the farm manager.

Turning right leads one to the brooder house. In



Residence of farm superintendent and (in right background) the brooder house.

it are 20 pens each 12 feet square. Each pen is designed to hold approximately 150 baby chicks, giving the house a capacity of around 3,000 chicks. Various types of electric brooding equipment can be used. The house offers opportunity to study problems that arise in the brooding of chicks. Different types of litter management have been observed, different water systems have been tried, ventilation problems have been studied, different feeding management methods have been used, and various types of rations have been fed to chicks in the house. There is storage room

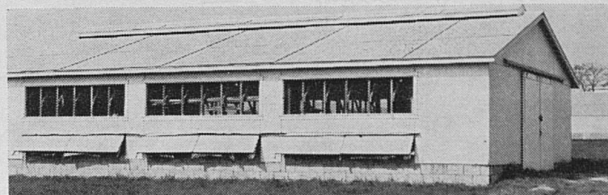


(above) The farm is about 2 miles west of Lexington on the Leestown road. (right) Baby chicks under infrared brooder. Note fence to keep chicks close to heat, feed and water.



available for feed and the various kinds of equipment needed in a house of this type.

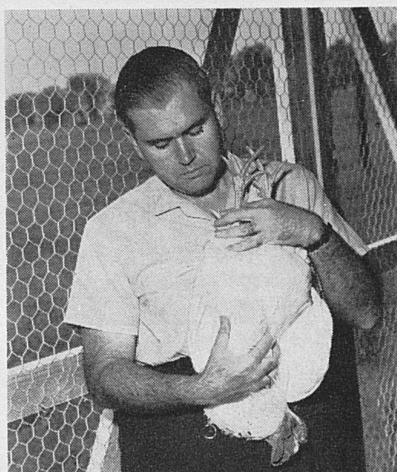
Turning left from the main road, one finds a series of three houses, the first of which is the breeder house. This house, like the brooder house, is constructed of concrete blocks. In it are 62 six-foot-square pens used for single-male matings—one male bird and eight females. This house offers opportunity for feeding, litter, watering, nesting, and ventilation management studies. The bulk of the work carried on in this house, however, concerns breeding and reproduction studies. At present there are nine pens providing chicks to be used for oxygen-consumption work. The birds in five of these pens showed high oxygen consumption when tested at 3 weeks of age, with the other four pens showing low consumption. Eight pens are being used to establish eight inbred lines to be used in further breeding research. Four



The "Homosote" house derives its name from that of the thick, cardboard-like material used on the sides and roof.



Geneticist D. W. MacLaury and Graduate Student Gene Plumley examine cross-bred chicken for feather pattern.



Meat-type bird being examined by Staff Member Thomas H. Johnson for breast width and depth, two of the characteristics by which market birds are judged.



Department Head W. M. Insko, Jr., checks egg shell quality in the caged layer house. Cans above the cages contain feed for the groups of pullets being studied.

pens each of White Plymouth Rocks, New Hampshires, Rhode Island Reds, and Silver Cornish are being used for flock replacement and teaching purposes. Twenty-four pens provide eggs for special incubation projects. The remaining pens in the breeder house are used for male birds that might be needed in other pens. Storage space is also available for feed and equipment.

Next is an aluminum house, the first house to be built on the farm. This is a cage house having a capacity of 480 egg-type laying hens used in experiments on feeding different levels of protein, fat and fiber.

The last of the three houses is the "Homosote" house. It houses approximately 400 birds being used for reproduction and management studies. Homosote is a commercial material made from old newspapers, cardboard, etc., pressed hydraulically into thick, heavy sheets. The material has unusual strength and lasting power. Some shelters on the old poultry farm had coverings of Homosote that had been in use for 18 years.

South of the "Homosote" house are two new experimental houses under construction. These consist of pole-frame construction with heavy plastic being used for the roof and sides of one, and metal roofing and plastic siding on the other. These will be used for rearing houses and housing management studies.

(Continued on Page 6)

New Poultry Research Farm

(Continued from Page 5)



Note the overhead plastic insulation and provision for ventilation in the "Homosote" house. The ventilating system, designed by the Agricultural Engineering Department has proved highly successful.

At the feed mixing center, grinding and mixing equipment is available that will permit the mixing of experimental rations used in nutritional studies conducted on the farm. Soon to be constructed will be large bulk storage bins that will permit the storage of larger quantities of grain. This grain is to

be mixed with various supplements to provide the rations for all birds on the farm.

The equipment storage area is designed to store equipment that is seasonal in its use. It also provides a place where repairs can be made.

The old poultry farm, near the University campus and consisting of 18 acres, did not provide enough land for both buildings and range management studies. The new farm allows greater use of range area and will permit the comparison of range rearing versus confinement rearing. Range areas will be larger and birds will not be crowded in the range shelters since there will be room for more shelters than formerly.

This research unit has been needed by the poultry industry of Kentucky for a long time. The Poultry Science Department feels that it provides opportunity to carry out much-needed research that the department has been unable to do in the past owing to space limitations.

Office personnel and incubation facilities will still be maintained in the Dairy Products Building on the main campus. Also various nutritional and metabolic studies will be conducted in the small animal laboratory also on the main campus.

Further expansion of the research and teaching facilities of the Poultry Science Department is planned and will be put into operation when feasible.

Career Plans of Youths

(Continued from Page 3)

patterns of expectation to migrate and career planning uncertainty. What should be especially noted, however, is that career goal aspirations of seniors in Eastern and Central Kentucky are, in pattern, very much alike.

Planning to go to College

Over *one-half* of the seniors in both regions said they *would like* to go to college if they could, but only about *one-third* of them were *actually* planning to do so. Two-fifths were undecided at the time this information was obtained.

These findings show a somewhat lower level of college aspiration among rural youth in Kentucky than is true of rural youth in other states. For example, a national survey conducted by the Bureau of the Census in October 1959 found about two-fifths of all rural high school seniors in the United States were

planning to enter college, with only about one-fifth undecided.²

High school seems to act as a sort of proving ground for future educational capabilities, and the senior year is an especially critical period. It was found in this study that youths who attain a high position in the social structure of the school, as measured by grade average, participation and leadership in extra-curricular activities, and prestige among school peers, are more likely to plan college careers than their classmates.

Family background plays some part in determining who goes to college, particularly in the case of boys. Boys from families that are socioeconomically "better off" are more likely to plan college careers than their counterparts from "less well-off" families.

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² Advance data from this survey are reported in "Educational Status and School Plans of Farm and Nonfarm Youth, October, 1959," *Farm Population*, Series Census AMS (P-27), No. 27, (April 29, 1960), Bureau of Census, Washington 25, D. C.

Kentucky Research Results in Brief

By FRANK B. BORRIES, JR.

COPPER SULFATE IN RATION HELPS GAINS OF DRY-LOT PIGS

Copper sulfate, a standby material used by Kentucky farmers for many purposes, was very effective in a ration given to Hampshire weanling pigs in a U. K. Agricultural Experiment Station trial last season.

Charles Barnhart, swine researcher, said test pigs on a ration containing 2 pounds of copper sulfate per ton of feed had the highest average daily gains (1.39 pounds) and were the most efficient users of feed, requiring only 276 pounds of feed to produce 100 pounds of live-weight gain.

Idea of the test was to check usefulness of certain material such as nitrofurans (which apparently control scours), antibiotics and the copper sulfate as disease preventatives.

Barnhart said another ration treatment that had good results contained Terramycin and Oleandomycin (both antibiotics). It induced a daily gain of 1.29 pounds, and required only 281 pounds of feed for each 100 pounds of gain. One of the nitrofurans (NF-67) had 1.37 pounds daily gain and a feed efficiency figure of 292 pounds.

Average daily gain ran from 1.13 pounds for the

controls (no chemicals given) to 1.39 for the copper-sulfate ration. Feed efficiency ran from 276 pounds (the copper sulfate group) per 100 pounds gain to 308 pounds; the latter was the ration where Terramycin alone was used.

All the treatments increased daily gains somewhat.

TOBACCO PLANTER, HARVESTER UNDER CONSTRUCTION

Research work to develop a machine that plants pelleted tobacco seed and one which harvests tobacco—both potential labor-and-costs savers—proceeds steadily at the U. K. Agricultural Experiment Station.

A pilot machine to plant the pelleted seeds has been used for the second year in experimental plantings here, and a pilot model of a harvesting machine has been built. The savings to tobacco farmers if the two machines can be perfected are sizable.

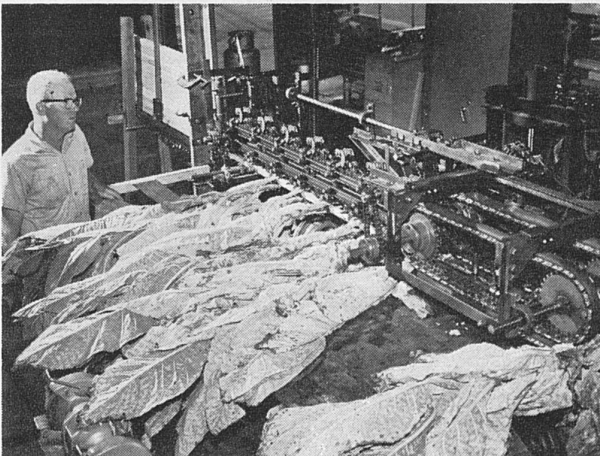
Tobacco planting is done by the labor-consuming plant-bed system. The experimental system would allow planting directly into the field by use of pelleted seeds. E. M. Smith, agricultural engineer in charge of the two projects, estimates that enough seed to plant an acre can be pelleted for about 50 or 60 cents cost. The tiny seed are commercially covered with a thin coating of clay and are about the size of a common BB shot.

The harvesting machine also would save farmers hundreds of dollars. Present harvesting is by hand-cutting. The experimental machine would do this mechanically about six times as fast and require only one man for operation.

Smith is the first to admit that the problems in the two projects are big. In 1959 the row "profile" was such that when heavy rains came the pelleted seed were covered by silt. Weed control also was a problem. The pellets were planted through a light plastic mulch in which emergence holes for the plants had been punched by hand. But last year and this year weeds also found the emergence holes useful and in many cases crowded out the tobacco. The black plastic mulch is, however, a good conserver of moisture, an anti-erosion device and is hard on weeds under the layer itself.

The harvester is a more complex machine. It must have a stalk cutter, must be able to spear the cut

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A mechanical tobacco harvester is being developed by U.K. agricultural engineers. Three of its four main components have been designed and built and are now undergoing laboratory tests. The completed machine will cut, spear, and place the stalks evenly spaced on a stick and convey it to a wagon without being touched by workers. This picture shows Researcher Warren Smith checking the device in a trial run.

Research Results in Brief

(Continued from Page 7)

stalk and transport it, without bruising or tearing, through the machine, and then deposit it in a safe place for housing.

There are some existing machines designed to stalk-cut tobacco. One, developed by William Irvine of Danville, Ky., has been used by the station researchers. The newly designed, U. K. machine will use slightly different principles. One is a "floating" spear arrangement. The cut stalks are forced over this spear and then, by a clever spring-and-cam arrangement, onto a tobacco stick. When the stick holds a number of stalks—each 9 inches apart on the stick—the stick is removed and placed on a conveyor belt and taken to a wagon for hauling to the barn. There is no limit to the number of sticks the machine can hold, though a "magazine" arrangement must be loaded with the sticks every so often.

An important feature of this harvester, being developed by funds provided by M. J. Walden of Woodford county, is that one man can operate the device and can harvest by himself about three acres of tobacco daily.

Career Plans of Youths

(Continued from Page 6)

Selecting an Occupation

About one-third of the boys and over one-fifth of the girls were planning careers in the professions and other high-status jobs. As previous studies have also shown, occupation is a more important avenue to adult success for boys than for girls. Many types of high-status jobs are closed to women; career-oriented girls in this study, in the main, chose either the teaching or nursing profession.

High occupational aspiration, especially for boys, seems to be socially inherited. Those boys from higher status ("better off") families in their communities are more likely to plan on professional careers than their counterparts. This is indicative of the influence that social experiences and attitudes

within the family circle have upon youths' career ambitions.

Leaving the Home County

A dominant thread which weaves through these findings is that migration—leaving the home county—is a fact which Kentucky rural youths must face when planning their work careers. Only 29 percent of the boys and only 16 percent of the girls in this study were *not* planning to migrate to other areas after completing their schooling. Furthermore, about one-half of the boys and over two-thirds of the girls expressed a definite preference for living in or near urban areas.

The expectation to migrate is, of course, greater among youths in the Eastern Mountain Region than in the Central Bluegrass Region. This reflects differences in career opportunities for youths within the respective regions.

However, the expectation to migrate was found to be a characteristic not associated with the socio-economic background of rural youths or with their level of school achievement.

Some Practical Implications

Parents, teachers, youth counselors, community leaders, and others influence youths in choosing career goals. They are often "models" to which youths pattern their lives. Therefore, they must take some responsibility for helping youths to evaluate rationally their situations before making career plans. The alternatives available, the consequences of a particular course of action, and the associated rewards should be pointed out. Youths need guidance in making realistic plans so as to enhance their life chances in the adult world. Furthermore, people who work with youths in rural areas should be fully aware of the tremendous importance that migration plans have in the career-choosing process. When these youths leave their home counties after graduation from high school, will they be prepared to find a place, or will their career aspirations be frustrated? The need for wise counseling is evident throughout the findings from this study.

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