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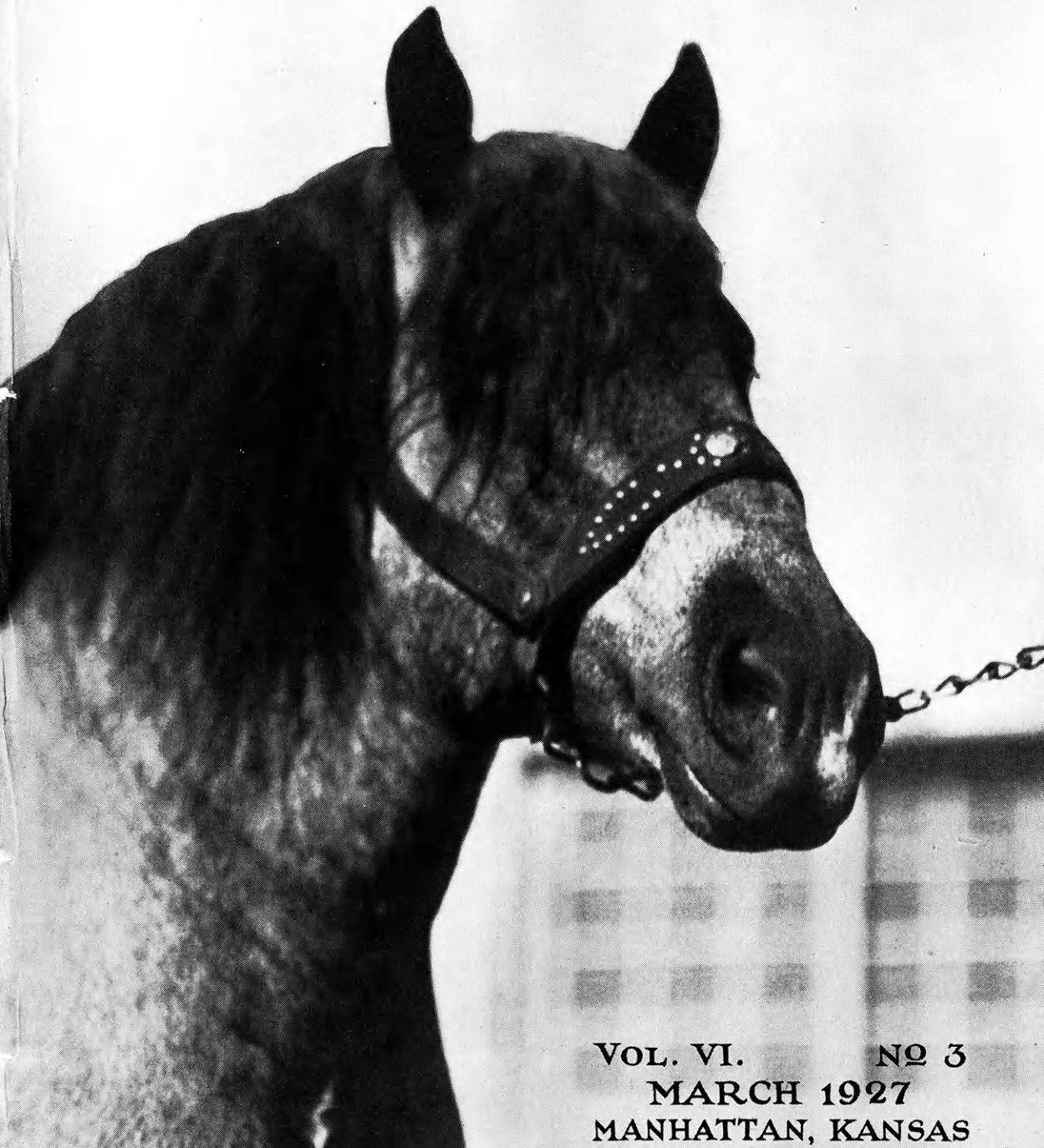
The KANSAS AGRICULTURAL STUDENT



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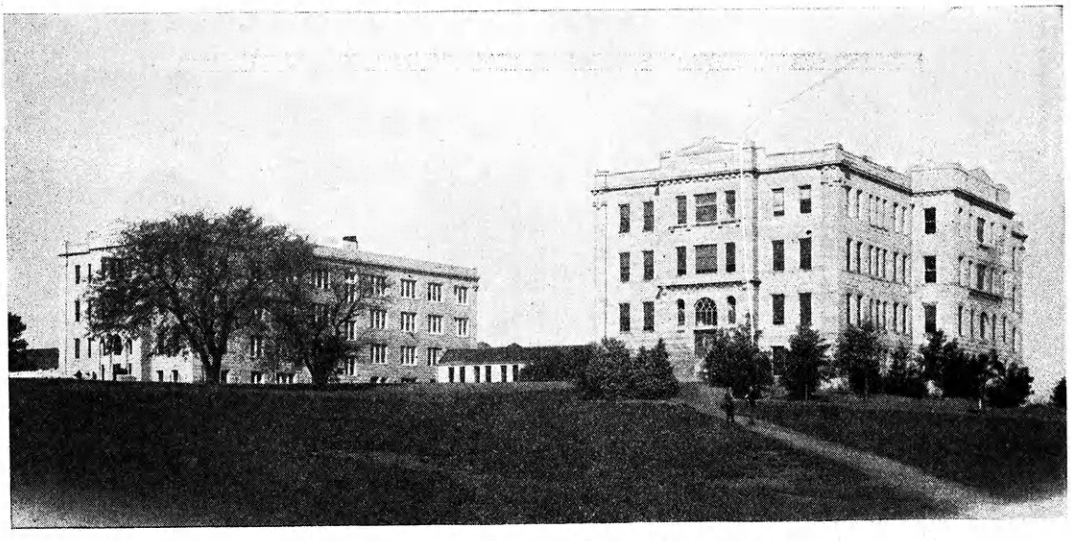

WEST AND EAST WINGS OF WATERS HALL

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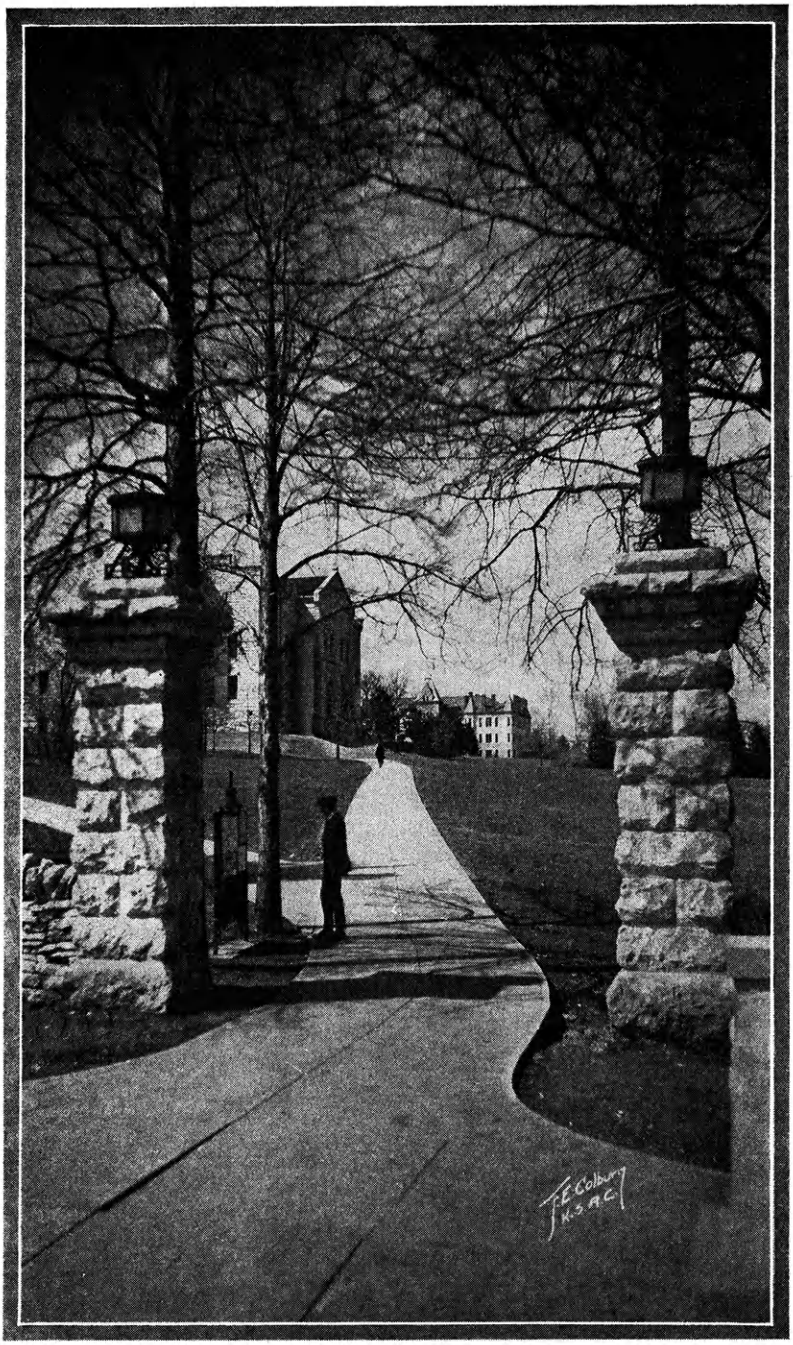


SOUTH ENTRANCE TO THE COLLEGE CAMPUS

The Kansas Agricultural Student

VOL. VI Manhattan, Kansas, March, 1927 No. 3

Six Gifts of Agriculture

F. D. Farrell, *President, K. S. A. C.*

The agricultural student who has good native ability, sound character, and wholesome ideals and who expects to make a career of farming, can look forward confidently to receiving six great gifts that are available to the intelligent American farmer. These gifts are among the rewards of good farming in this country.

One of them is the opportunity to indulge one's interest. No man can long be happy if he is not interested in his work. Most people are reasonably happy so long as they are interested. To anybody whose mind and spirit are really alive, farming is first of all intensely interesting. It relates to so many forces, physical, biological, economic, and social, that it provides unending stimulus to the mind and the spirit.

A second gift is health. Wholesome living in the open country is one health-giving factor. Sympathetic association with domestic animals is a second. The natural beauty of the environment is a third. Other factors include vigorous physical activity, abundant and wholesome food, and the necessity for following regular habits. All these benefits the good farmer has on his own land. Modern transportation and communication place him within easy reach of whatever real benefits the town offers, if he needs them, and he can enjoy them without having the disadvantages of living in town.

Moderate economic prosperity is a third gift that the good farmer enjoys. Comparatively few men amass wealth in farming. Comparatively few men get rich in any occupation. But few really good farmers in this country fail to make a good living and to accumulate sufficient of the world's goods to satisfy the wise man's simple needs in old age. Good farmers the country over, through study, work, and patient and persistent application of common sense become well to do, maintain comfortable homes, and provide ample educational opportunities for their families.

Public respect is a gift that comes to the successful farmer. Intelligent people in all occupations respect the man whose character and ability have brought him success as the operator of a farm. Such a man represents the fundamentals. He is quietly dignified, tolerant, good humored, patient, and sane. People like him and respect him, instinctively.

In this hurly-burly age perhaps no gift is more precious than the opportunity for solitude. Many superficial people think that the solitude of the farm is a liability. Really it is an enormously valuable asset. Any thoughtful person who doubts this statement might well try living in a city after growing up in the country. City life, with its noise, rush, crowding, commercialized entertainment, quantity-production arrangements, and general artificiality, is exhausting to body, mind, and spirit. Country life, with its quiet, its wide horizons, and its opportunities for reflection and unhurried movement, strengthens the individuality and enriches the mind and spirit of the intelligent countryman.

Finally, there is the gift of satisfaction. This comes to the good farmer because he never doubts that his work is useful to human society. He knows it is not only useful but indispensable. As Emerson said, "He represents the necessities." Undoubtedly one of the greatest satisfactions—some people say it is the only real satisfaction—that can come to a man is to know that his work is important and that he does it well.

These are among the important gifts that agriculture offers to the good husbandman. Some of them are priceless gifts. Their existence helps to account for the fact that the world always has a sufficient number of farmers. The certainty that they shall continue to be offered, helps to explain why some of the ablest and sanest young men in America are preparing for farm careers.

Hogs a Dependable Cash Crop

Harold L. Murphey, '28

Hog raising, like any other type of livestock production cannot be made to pay big dividends over night. This article will be based on the idea that hogs are a dependable cash crop over a period of time. Too many farmers and stockmen are condemning the hog as a money-maker, because they lost money over a short period of time. That time was during the decline in hog prices in 1921 to 1923. However, the hog price situation has been stabilized again and is on a normal basis and with proper methods of production and marketing, hogs will return a handsome profit.

Kansas produces about 2,000,000 hogs per year; ranking ninth among the states in production of corn and third in acreage of alfalfa, she should have a lively interest in the cost of pork production.

The first big problem in hog production is the farrowing of pigs and the saving of large litters. Here the Kansas farmer is losing money every year. On an average the size of litters ranges about eight pigs and then, according to statistics gathered from raisers under actual production conditions, only 50 percent of the pig crop lives to the weaning age. This one fact alone should cause the breeders and raisers of hogs to take notice. The man who is making money out of his hogs raises larger litters and saves more pigs than does the average breeder. The difference in just this one point is the difference between profit and loss in many cases. The work being done in the production of ton litters has brought to light very clearly this very fact. First, producers must have large litters that grow fast and, second, each pig must make a good carcass. The 1926 champion ton litter contained 17 pigs weighing, when six months of age, 5,117 pounds. All breeders cannot have the champion ton litter, but all can breed for larger litters and more desirable market hogs.

Although the present-day breeder is not doing all in his power to raise the standards of his market hogs and thus be able to produce more pork at a lower rate of cost than he is doing, he is still getting a good income by marketing his corn in the form of pork. The Department of Agricultural Economics of K. S. A. C., in cooperation with the United States Department of Agriculture kept accounts for five years on hogs on a number of farms in Jackson and McPherson counties. The years of study were from 1920 to 1924, inclusive. This work was over the equivalent of 164 farm years. These figures, secured under actual farm conditions, should give some idea of the cost of producing pork. The cost of producing 100 pounds of pork as shown by these studies was as follows:

Grain, 440 pounds at 1.1 cents per pound	$4.40
Medium protein supplement, 30 pounds at 1.2 cents per pound	.36
Tankage, 10 pounds at 4 cents per pound	.40
Man labor, 2½ hours at 30 cents per hour	.75
Horse work, ½ hour at 10 cents per hour	.05
Cash expenditure	.25
Total cost	$6.21

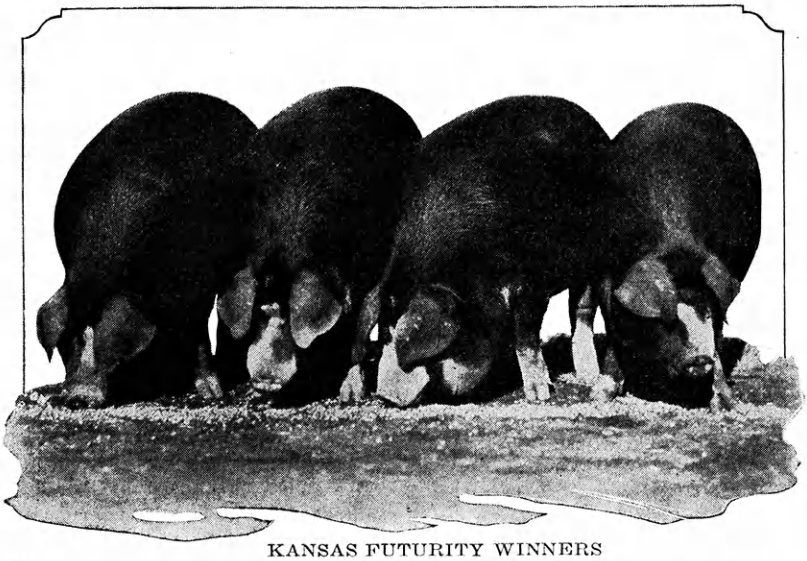
In addition to the above pasture was supplied in the form of alfalfa, clover, or Sudan grass.

However, average hog prices at Kansas City over the period of time covered by the study were $8.75 per hundred. This price gives $2.54 a hundred for pasture and cost of marketing. These figures do not show a big profit but do show that there is a profit on hogs under actual farm conditions.

In many cases under the farm conditions prevailing where these figures were obtained, the sows farrowed only once a year and then only 50 percent of the pigs were saved, the average size of the litters being eight pigs. If proper management combined with prolific sows had been used the cost of production would have been lowered. These figures are on whole herds, not just the market hogs alone. When the sows farrow few and small litters the individual cost is increased.

Aside from the production of the hogs comes the marketing of them. Hogs are higher priced in certain times of the year than in others. This being a fact, the problem is to produce the hogs and have them reach the

market at one of its high points. The two high points of the market in the month to month cycles are March and September. Following each of these high periods in prices comes a sudden depression. This depression is due to the rush of the pig crop to market. This being the case the best plan is to breed sows so they will farrow early enough to get their litters on the market in a period of high prices. By having the sows farrow about two or three weeks earlier than usual, and by good sound feeding practices the crop may be marketed early. This very thing is being done by a number of breeders and it is proving very satisfactory from the producers' standpoint. It is good from the marketing standpoint because it lessens the load on the markets when most people are marketing.



KANSAS FUTURITY WINNERS

There are times in the production of pork when it is advisable to go in heavy and other times when it would be well to stay out as much as possible. The producer can by regulating the size of his breeding herd take advantage of this fact. There are as a whole three types of producers. (1) The one who goes in heavy when hogs are high. (2) The one who produces the same year after year. (3) The one who looks forward and tries to read the future in relation to price and production. This third type is the one who will lighten up his breeding herd if he thinks a slump is going to follow a period of high prices. If there is a good chance for a period of high prices to follow a period of low prices, he loads up on breeding stock and is ready when high prices come.

The last method of hog raising offers the greatest opportunity for profit. One must look forward in all lines of business and adjust himself accordingly. By good sound judgment many losses can be prevented and also many advantages can be obtained. The second type of hog production is best if the farmer is not going to try to keep up with market conditions.

Hog production under the present circumstances is proving profitable but the real outcome of hog production for profit lies with the farmer. He must produce more pigs of marketable age per sow than he is now doing, and market them to the best advantage. It is all a breeders' and producers' problem. They and they alone can solve it. Seldom are average losses on hogs, barring disease, so great but what they can be offset or overcome by better than average breeding, feeding, and marketing. For this reason hogs can be made one of the most dependable of cash crops.

Agricultural Opposition to Organization

Raymond W. O'Hara, '30

The agricultural industries do not tend to develop a cooperative spirit. This fact makes the organization of the rural population quite difficult. The life of the people on the farms is such as to resist any influences favoring cooperation and effective, harmonizing team-work.

In the first place, the farm home is somewhat isolated, although modern inventions have partially overcome this feature. Having lived under such conditions, the people have necessarily become self-reliant, strong in initiative, and independent. Each man is his own boss and acknowledges only a limited dependence upon others. Having become accustomed to such an environment, he is very reluctant to give up his virtual independence, or to accept any plan which seemingly reduces him to one of a group instead of an independent unit.

This influence has been accompanied by another feeling which is in reality based upon it. A pride very near to obstinacy is maintained by the average farmer. He is proud of his independent position and intends to retain it. It cannot be doubted that this has done much to hinder cooperation, yet until the situation is made clear and those who entertain such ideas of seemingly false pride are made to see its erroneous nature, it will remain a factor to be considered before effective organization can be accomplished.

A third influence preventing organization is the varying conditions which each individual farmer must meet. Any industry, profession, or occupation presents certain problems which are more or less characteristic, and, as a general rule, will be found to be practically inseparable from the vocation, no matter upon what part of the globe it is pursued. So it is with agriculture; every farmer must battle with adverse weather conditions, insect pests, and discouraging markets. However, two neighboring localities may differ so widely as to necessitate entirely different methods of management. The soil of adjoining farms may differ materially, and rain may fall plentifully on one and miss the other, only to reverse the order the following season. No two seasons are alike, and who can foretell what the ensuing one may be? The cotton grower in the South, the hog and cattle feeder in the cornbelt, the wheat farmer of the plains, and the dairyman of Wisconsin, must work out their own salvation, nor does one have a particular interest in the other. Therefore, could one expect an effective, closely affiliated union between persons separated in mind because apparently not recognizing common interests?

Taking into consideration these three factors, a feeling of independence developed through environment, the pride in their inpendence entertained by the people, and the great variation of problems and interests, the magnitude of the forces resisting organization may plainly be seen. These characteristics are as old as the industry itself, and are as strongly imbedded in the farmer's life as the oak is rooted to the ground. A change can be accomplished only by tedious methods, and modern demands for organization have advanced farther than the education and a feeling of common interest which alone can make organization possible.

Roy L. Fleming, '23, is farming near Paola. Roy says he is convinced that "farming gives the educated man a chance to prove his worth and unless one is educated to the best farming practices or uses them he cannot succeed."

W. L. Willhoite, '16, is farming near Drexel, Mo. He has a daughter and two sons and says he considers the farm a good place to rear a family as well as to enjoy life and follow his own plan.

Conserving Soil Moisture in the Apple Orchard

C. W. Tozzer, M. S., '27

Many of the apple orchards throughout the country suffer from the lack of soil moisture each year. This is not always due to climatic conditions, because in the very locality where some trees are dying for lack of water, other orchards are producing large crops of fruit. In most cases, it isn't that the orchard failed to receive enough rainfall to produce the fruit, but that the available moisture was not properly conserved.

The apple tree differs from most of the common annual crops in that it does not confine its water absorbing power to the top foot or so of soil, but by means of its deep roots has access to most of the available water in the subsoil. Because of this fact the trees show no signs of drouth until the available water in the top four or six feet of soil has been reduced to a minimum. At this point the immature fruit begins to wilt or drop from the trees, the trees make little or no growth, and, if this is repeated several years, the orchard will be permanently weakened or actually killed.

Every weed or clump of grass that may be in the orchard at the time the trees are making their growth, will be growing and absorbing moisture at the expense of the trees. The growing of grass or weeds in the orchard and then cutting them for hay or using them for pasture constitutes a practice that depletes the soil of more moisture than any other orchard practice.

The rainfall record is not an accurate measure of the amount of moisture in a certain soil, because most of the precipitation may have run off and little of the total amount penetrated into the soil where it can be utilized by the trees. The amount of run off is influenced, first, by the character of the soil. Hard compact soils absorb less water than loose porous soils. This condition depends to some extent on the type of the soil but to a larger degree on the amount of humus it contains. Humus makes the soil friable and prevents it from puddling. Second, the amount of run-off water is influenced greatly by the nature of the surface of the soil. If it is bare and compact, but little water soaks in, whereas, if it is covered with a straw or grass mulch, most of the water is absorbed. Also if a crop is growing on the soil it will tend to hold the water by hindering its quick run off.

Clean cultivation of orchards has been practiced in some localities quite extensively, because it is the most practical way of conserving soil moisture on a large scale, but, on the other hand, much water is lost as run-off during the winter and spring when it is not possible to keep the soil loose by cultivation. This method of culture also tends to burn out the humus in the soil, and as none is added because of no plant growth, it is only a question of time until the soil will become hard, compact, and incapable of taking up water.

To remedy this condition, a crop is planted in the clean cultivated orchard during late summer or early fall. This crop should make considerable growth before cold weather arrives so it will make a good covering for the orchard soil. The kind of crop, whether a tender or hardy plant, will depend on the locality and the spring precipitation. If there are few spring rains a tender cover crop like oats or cowpeas should be planted, but if spring rains are abundant, a hardy crop such as rye or winter vetch will prove more valuable. The reason for this difference is that when there is but little spring rain a hardy cover crop will compete with the trees for moisture and all the moisture that was conserved during the winter by the preventing of run-off water will be used in the spring by the growing cover crop. The orchard trees will be robbed of soil moisture. On the other hand, if a tender crop is planted in the or-

(Continued on page 89)

Grape Varieties for Kansas

R. W. McBurney, '27

A manuscript on "Grape Growing in Kansas" has been prepared for publication as a circular of the Agricultural Experiment Station by Prof. R. J. Barnett of the Department of Horticulture. A long list of requests for information contained in the manuscript is now on file. The following discussion consists largely of excerpts from this manuscript.

Grape production is becoming more important in Kansas every year. From 1888 to 1922 the Kansas Agricultural Experiment Station tested over 200 varieties of grapes. From these a relatively small number may be selected which shold be planted in Kansas. The best of these is the Concord. The other principal varieties that may well be included in many commercial Kansas vineyards are: Moore Early, Worden, Niagara, and Brighton.

The Concord is a black grape, which is used as the standard of comparison for other varieties. The berry is of good quality and ripens in midseason. The plant is hardy, vigorous, productive, and resistant to pests. In general, it is the best variety to plant, especially for commercial vineyards.

The Moore Early bears fruit similar to that of the Concord, its parent. The quality of the fruit is not so good as the Concord fruit but it ripens from one to two weeks earlier. The vine is less vigorous and productive and is not adapted to such a wide range of soil and climate.

The parent of the Worden is also the Concord. The Worden excels its parent in quality, size of berry and bunch, and earliness and vigor of vine. The handicap of the Worden is its thin skin which cracks easily in wet weather, thus making storing and shipping hazardous.

The Niagara is a white grape and is the leader in its class. It excels the Concord in size of berry and bunch. The plant is less hardy than the Concord and is more subject to fungous injury.

The Brighton is a red variety of extra fine quality. The vine is not so hardy as the Concord and is more subject to some pests.

Several other varieties might well be included in the home vineyard. Red varieties such as the Lucile, Agawam, Catawba, and Delaware may be grown in addition to the Brighton. Of the white grapes, Winchell (Green Mountain), Diamond, and Pocklington, and of the black varieties, Fern Munson, and Campbell Early are good varieties.

Variety tests carried on by the United States Department of Agriculture, at Woodward, Okla., indicate that for dry sections of southwestern Kansas, still other varieties are advisable. The Beacon, a hybrid black grape, developed by T. V. Munson, gives three times the yield of the Concord at the Woodward station. It ripens in midseason and should be tested in southern Kansas for both home and commercial production. An early variety, Manito, and a late variety, Ellen Scott, are other high yielders of promise for southwestern Kansas.

Paul L. Findley, '20, is operating a wheat and stock farm near Kiowa.

William O'Connell, '16, Marysville, is county agricultural agent of Washington county.

Dudley Moses, M. S., '24, is agronomist in the School of Agriculture, Potchefstroom, Union of South Africa.

G. K. Ikenberry, '20, M. S., '24, is assistant professor of botany and acting head of the department in North Dakota Agricultural College, State College Station, Fargo.

A. D. Weber, '22, assistant professor of animal husbandry, College of Agriculture, University of Nebraska, Lincoln, coached the team winning the intercollegiate judging contest of the National Western Livestock Show, Denver, January 15, 1927.

Small Fruit and Orchard Soils of Doniphan County

Howard W. Higbee, '28

Doniphan county, being situated in the very northeast corner of Kansas, is well within the area of glacial and loessial soils. It is bounded on the north and east by 90 miles of the Missouri river, on the south by Atchison county, and on the west by Brown county.

With the exception of narrow strips of flat alluvial land along the streams, the topography of the county varies from undulating to rolling, with some rather steep, timbered slopes along the Missouri river bluffs. The more level areas are in the southwestern part of the county.

Climatic conditions of the county are characterized by a wide range both in temperature and rainfall, but on the whole the climate is favorable to the growing of both berries and orchard fruits. The production of peaches is not profitable due to the cold winters which cause winterkilling of the buds too frequently. The extremes of temperature vary from 104° F in summer to -23° in winter. However the average summer temperature is around 85° to 90° F, and for winter, 40° to 50° F. The average growing season is about 180 days in length, with frost dates near April 12 and October 12, the latest frost being May 3 and the earliest, September 25. The annual rainfall varies from 32 to 36 inches, the months of May, June, July, and September to October being the wettest months. Total crop failures are unknown, though yields are sometimes reduced by long periods of drouth during July and August. Snow rarely remains on the ground all winter but occasionally remains as long as 6 or 8 weeks.

AGRICULTURE AND HORTICULTURE

The most important crops grown in Doniphan county are corn, red clover, wheat, alfalfa, some sweet clover as a soil builder, bluegrass, small fruits, including grapes, and orchard fruits. Among the small fruits there are the raspberries, blackberries, strawberries, gooseberries, and others of minor importance. Grapes and small fruits are grown chiefly on the steep slopes where the soil is unusually deep. In commercial orcharding apples and pears are most important. The leading varieties of apples are Jonathan, Winesap, Delicious, Ben Davis, Grimes Golden, Black Twig, and York Imperial. Among pears, the Kieffer and Garber are the leading varieties.

The size, quality, and flavor of apples grown in Doniphan county are recognized as equal to any on the markets in the Middle West. The flavor is especially good due to the favorable environment.

THE SOILS

The soils of the county may be divided into four great groups, according to the process of formation: (1) Residual, (2) glacial, (3) alluvial, and (4) loessial.

The most important and most extensive area of soils comes under the loessial soils, formerly recognized as wind-blown soils. The three most important series of these soils are the Knox, Marshall, and Grundy. The Knox is the deepest, most friable, and lightest in color. The Grundy is more level, dark to almost black in color, and has a heavy plastic subsoil. The Marshall falls between the Knox and Grundy series.

SHELBY SILT LOAM

The Shelby silt loam consists of a dark porous silt loam underlain by a yellowish brown to reddish brown friable silty clay loam, which passes at a depth of 20 to 21 inches into a rather friable silty clay loam with frequent mixtures of glacial sand and gravel with a rusty brown color appearing at the 20-inch depth and in some cases on the surface where erosion has taken place. Now and then boulders of varying sizes will be found.

This series of soil is found largely in the southwest quarter of the county in small

narrow bands around hill slopes or small knolls. Sometimes it occurs in orchards and is well suited to orchard purposes.

WABASH SILT LOAM

The surface soil of the Wabash silt loam consists of a dark brown to nearly black, friable silt loam with a depth of 18 inches. The subsoil is a dark brown to brownish gray which approaches a silty clay loam. Since this soil is found only in strips from a few hundred feet to rarely more than one-half mile in width the total area is not large. Only a few orchards are found on this soil.

GRUNDY SILT LOAM

Grundy silt loam soil is characterized by its gentle topography, dark brown to black surface of silt loam to a depth of 6 inches. Below this the texture becomes a silty clay loam which is very compact and plastic in nature. There are no commercial orchards on this soil and the home orchards are unproductive because of the heavy nature of the subsoil giving poor root penetration.

KNOX SILT LOAM

Knox silt loam being one of the important fruit soils is worthy of considerable discussion. It is a light brown to buff color, loose, friable silt loam, varying in depth from 6 to 18 inches, below which the color changes to more of a yellowish or buffy color, the texture remaining loose and friable the entire depth that varies from 5 to 200 feet. Along deep road cuts iron stains and lime concretions sometimes occur.

The entire soil section is made up of a smooth-feeling, flour-like soil which always remains porous and friable. This soil along deep cuts stands in vertical walls for many years without crumbling. Wells dug in this soil are never walled below frost line.

The main development of the Knox series is along the Missouri river for a distance of two to five miles back. In the southern part of the county there is a small area of the Knox which approaches a silty clay loam type but is not extensive. The topography is from rolling to steep. Along the river bluffs there are considerable areas of the steep phase of the Knox, it may be called timbered phase, being too steep for cultivation except in patches along the border. It is here that a large percent of the berries are grown. The land is suited only to intensive methods of agriculture or grazing. Terracing is needed badly throughout the entire Knox area to prevent erosion. Many fields are nearly ruined because of deep gullies which have washed down through them. On the more level areas of the Knox extensive commercial orchards are grown because of the deep soil, friability of subsoil which permits great root penetration, and excellent air drainage which eliminates part of the frost dangers.

MARSHALL SILT LOAM

The Marshall silt loam differs from the Knox silt loam chiefly in being darker in color and occupying the more level areas such as hill caps and gentle slopes where erosion is not great. The surface 8 inches is a rich dark brown color, very friable and high in organic content. Below this the color changes gradually into a lighter brown and in texture it approaches the silty clay loam type. This is the most productive upland soil known and is found extending north through Missouri, Nebraska, and Iowa. It is suited to all kinds of crops and is also suited to fruit growing. Some of the best and most productive orchards in the county are located on the Marshall silt loam.

Marshall silty clay loam resembles the Marshall silt loam in color but is silty clay loam both in surface and subsoil. It occupies a large percent of the slopes in the Marshall series and some of the hill caps in the west central part of the county. Originally, no doubt, this type was silt loam, but due to being under cultivation over 50 years it has eroded and the surface 6 to 20 inches has gradually washed off down to the silty clay loam subsoil.

Extensive areas of this soil occur west of a line running northwesterly across the county 3 to 6 miles, as a rule, from the Missouri river bluffs. The silty clay loam type is better adapted to the growing of corn, clover, and wheat than the silt loam because the lat-

(Continued on page 88)

Fitting and Exhibiting Standard-Bred Poultry [1]

Kenneth W. Knechtel, '27

The poultry industry in this country began to assume importance and to be recognized as an important farm asset about the middle of the nineteenth century. Today it is a billion-dollar business. Accompanying the development of the industry came the organization of poultry clubs for the purpose of using united effort in advancing the poultry industry. Exhibits were planned and carried out and as interest gained momentum greater efforts were made until November 15 and 16, 1849, in Boston, Mass., the first American Poultry Show was held. It was a great success as far as interest was concerned, as 1,423 birds were shown by 219 exhibitors. But there was no standard to follow in judging the birds, because there was no standard which was universally followed in breeding operations. Under the circumstances, it is not strange that much difficulty was experienced in placing the birds in this show.

Interest in breeds and varieties increased gradually, as a rule, from 1849 to 1873. In February, 1873, poultry breeders from Canada and the United States organized the American Poultry Association and began the real work of standardization. A year later the first edition of the American Standard of Excellence (later called American Standard of Perfection) was published and since then there has been a uniform judging standard to follow.

Today the exhibiting of poultry has advanced and spread until every county fair feels lost without a poultry department and many shows are organized solely for poultry exhibits. Some of the larger shows being held each year are those in Chicago, Boston, Portland and Kansas City. The most important one is held during January at Madison Square Garden in New York City.

One may question the advantages of these shows unless he becomes an exhibitor himself. Probably the first benefit derived from any show is the interest it creates if properly managed. There is always a proud feeling created when one makes a winning in competition of some kind and often the desire to win is brought to the front even in defeat. Surely more effort is expended when one has a winning purpose in mind.

As interest is increased and more effort applied to the care and development of flocks, the show becomes a measure of the poultry breeders' efforts. With an understanding of the more detailed principles of breeding and the type of fowl which the standard sets forth, the showroom tends to systematize breeding operations. The show is also a popular and great advertising agency.

The setting up of a show involves many detailed activities such as (1) the choosing of a location for the show; (2) its arrangement; (3) securing the services of a competent judge; and (4) the keeping of records. Certainly the selection of a suitable location for the show adds much to the success of the show. Breeders are not going to exhibit their better birds if the risks involved are too great. The show building must be so constructed as to prevent draughts passing over the birds and thus making conditions conducive to the spread of roup, contagious diphtheria, and other serious troubles. Plenty of fresh air without draughts is highly essential. Other preventive measures should be followed; such as, careful disinfection of grounds and coops each day and the disinfection of the drinking water by placing in it a little potassium permanganate.

The show should be made as attractive and systematic in its arrangement as possible. This will require the use of uniform coops and coops which will permit the birds

1. This article consists largely of excerpts from Circular 127 of the Agricultural Experiment Station, "Fitting and Exhibiting Standard-Bred Poultry," by H. H. Steup. It is one of the circulars on which the poultry examination to be given in the State High School Judging Contest will be based.

to show to the best advantage. The best coop for this purpose is the standard wire coop which can be purchased by any show or an association of shows and used year after year. A nominal fee may be charged each exhibitor which will help defray the expense of the initial investment. The arrangement of the coops in a tidy systematic manner and the placing of all birds within each variety together will not only help the appearance of the show but will facilitate the judging of birds.

One of the biggest assets of a poultry show is a competent reliable judge who understands his business. There is nothing that will destroy a show quicker than to have an inefficient judge come in and place the ribbons, especially in a show with a good record behind it. Licensed American Poultry Association judges can be secured, and should be used if possible.

Accurate records must be kept of all exhibitors and the birds they enter, and also of the placings which the judge makes on the birds. In practice the method used is to give each exhibitor as many numbers as he has entries. Classes are listed separately and as each exhibitor enters his birds they are entered in their respective classes identified by the number given to each entry at the beginning. When it is time to do the judging, all that is necessary is to turn to the catalogued classes and determine exactly the number of birds, the band numbers of the birds (if they have any), and the number or numbers of the persons exhibiting them. In the catalogue there also will be found after each entry subdivisions for the purpose of recording the placings of the birds as the judging is done. This then becomes a complete accurate record of the judging as it occurs.

One of the most interesting jobs the exhibitor has is that of selecting his exhibition birds. To the beginner it is no easy task and some study of the Standard of Perfection before attempting the job will assist greatly besides increasing the possibilities of showing winning birds. At least, with some knowledge as to what the Standard states concerning the type that should prevail in the birds about to be selected there will be less chance of leaving the better bird at home and taking a much inferior bird in its place.

With type and color fixed in mind, the exhibitor should pick from his flock individuals having these desired characteristics. He should then make sure that he understands the general disqualifications and the breed and variety disqualifications. Having made the eliminations that such disqualifications require, his remaining birds, while not perfect, will be those which should receive consideration in the showring. The next step for the amateur exhibitor is to study in detail the scale of points for the breed in the Standard of Perfection, noting carefully the values of the different parts of the bird. Practically all birds have some defects and extreme care must be taken to select those with the smallest number of major defects. Having followed these steps carefully, the exhibitor may have some assurance that the best birds in his flock have been selected for the show. His selections should be made several days in advance of the show so as to provide time to properly train and fit his birds for exhibition.

As birds taken off the range and placed in coops will not show to any advantage, it is necessary to handle, train, and get them accustomed to the closer confinement. Frequent handling of birds by removing them from the coops several times a day and straightening their feathers will soon tame them until they will stand normally in the coop when anyone is around.

To increase the attractiveness of white birds it is advisable to wash them at least once before showing. The method most generally used and the one giving best results is as follows:

1. Prepare a warm room in which to carry on the washing operations and the drying of the birds.

2. Be sure that coops in which birds are to be placed to dry are free from dust and dirt and have plenty of clean straw in them.

3. Secure soft warm water, a good grade of soft soap, and three tubs.

(Continued on page 88)

Value of a Purebred Sire to a Community

Howard Vernon, '27

Kansas today is looking upon the beginning of what will be a critical condition as regards horse power in the next five or ten years. The 1920 census showed that the state as a whole has a surplus of horse flesh, but it also showed that there were very few young horses, and of this number only a very small percent were of the draft type, the average being farm chunks weighing from 1,150 to 1,300 pounds at maturity. At the present time Kansas needs a 70 percent increase in foals to maintain the present horse population.

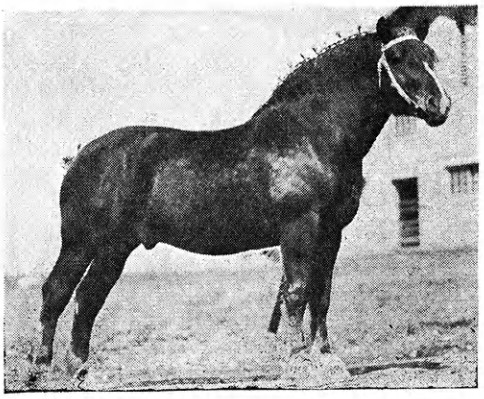
It is rather difficult at the present time to find a broke work horse under 8 to 10 years of age, and a large percent are around 14 to 16 years old. This means that at the annual rate of mortality, due to disease and natural death, the next few years is going to find the good young horse in demand at extra good prices. Such conditions are never realized by the public until it is too late, then there is a mad scramble for all to get into the game. Fortunately there are always a few men with enough foresight to save the day. A community 10 miles west of Marysville, Kan., has such a man in Mr. W. M. Leseby, and is to be congratulated on having such a man in its midst.

In the spring of 1919 a sorrel Belgian colt was dropped in the K. S. A. C. Belgian stud which gave promise of making a real draft horse. As he grew and developed, the name Colgo was attached to him, and he was registered accordingly in the Belgian Horse Society of America. As a yearling he showed up so well that the college decided to keep him in the stud.

While in service at K. S. A. C., Colgo sired a number of good foals, one of which is being retained and used as junior herd sire at the present time. This colt, known by everyone at K. S. A. C. as Colgodine, weighs as a three-year-old, 2,200 pounds.

In the spring of 1923, Colgo was sold to Mr. A. L. Stuenkel of Linn, Kan., and from Mr. Stuenkel, Mr. Leseby purchased Colgo at a four figure price in 1925. Mr. Leseby had owned Colgo only a few months when he was offered more money for him than he paid, but he knew he had a good horse, and he also knew this horse would do his community a lot of good so he refused the offer.

In opposition to Mr. Leseby, there are two other men standing scrub stallions for public



COLGO—CHAMPION PUREBRED BELGIAN

service in the same community at a lower service fee. However, because of this situation Mr. Leseby got the better class of mares and as a result last year's crop of foals is above the average. That one year's foal crop numbered some 40 head and it was Mr. Leseby's hope that the majority of these would be brought to the colt show, which he fostered and arranged on November 31, 1926. As usual, however, only the most progressive farmers brought out their colts and as a result only 16 head were present. The getting together a crowd of some 500 people was in itself an accomplishment, as friends and neighbors, who seemingly hadn't met for some time, exchanged ideas.

The community's interest in better draft horses was manifested in that every person became an interested onlooker as the judge picked the top seven colts from the 16 entrants.

After the top seven colts had been picked, the nine left back would have been a credit to almost any community, but because of lack of symmetry, bone, scale, and set of feet and legs, as compared with the other colts, they were left out of the money.

A big, growthy sorrel owned by Mr. John Hynek, and a bay owned by Mr. Frank Jedlicka, were the easy two tops. The sorrel having more bone and scale, showing more draft type, being heavier muscled and stronger in his coupling, carried away the first honors. The bay being of the same type as the sorrel automatically dropped into second place. The winner of third place, owned by Mr. Andrew Kruse, was a well-muscled colt, but lacked the scale and bone of the top two colts. The colt that stood seventh was an orphan, which in itself was proof enough to the onlooker that orphan foals of good breeding can be raised advantageously.

Dr. Wempe of Marysville gave an additional prize of $3 each to the colt and filly, respectively, that resembled their sire most. The entrant of Mr. Hynek was awarded the colt prize and the entrant of Mr. John Peterson hooked the filly prize.

It is of interest to note that good breeding tells, as the dam of the colt awarded first honors was a high-grade Belgian; the dam of the second-prize filly was a purebred Percheron; and the dam of the third-prize colt, was a high-grade Belgian. The next four prize winners showed that their dams were of draft breeding, but of a nondescript nature, as all four of these foals had inherited one or more weaknesses of their dams. The remaining foals gave evidence of being sired by a draft stallion, but all had inherited lack of substance, size, or whatnot from their dams. Where good breeding was present on the dam's side, good growthy draft foals were obtained; the nondescript breeding showed up in plain average foals, while the smaller, less drafty dams produced foals of draft type lacking in size and growthiness. This lack of size and growthiness was quite evident in the smaller foals, as one of the oldest was the smallest.

It is the type of horse that grows out of such foals as the first three mentioned that is demanding a premium on the market today and will continue to demand a premium until the present horse situation is relieved.

In proof that Colgo's breeding breeds on it should be recalled that at the Topeka Free Fair last fall a grand-daughter of Colgo was made grand champion Belgian female. At the Kansas State Fair in Hutchinson a grandson was made grand champion Belgian stallion. Also at the American Royal Livestock Show, at Kansas City, another grandson of Colgo was made grand champion. All three of these grand champions are owned by K. S. A. C.

Mr. Leseby has done a service to his community which cannot be measured in dollars and cents, but that will be referred to in history. If every community in Kansas had a "Mr. Leseby," the livestock industry of Kansas would be far in advance of what it is today.

Edward Isaac, '12, is extension horticulturist in the Montana State College of Agriculture and Mechanic Arts, Bozeman.

J. B. Sweet, '17, is a commissioned officer in the Infantry School, Fort Benning, Ga. He writes that his work is rich in human contacts and varied experiences.

W. K. Evans, '05, Goodland, is recognized as one of the good farmers of northwestern Kansas and one of the leaders in the various agricultural activities in that section of the state.

Harlan Deaver, '10, is one of the leading farmers and stockmen of northeastern Kansas. His postoffice is Sabetha. He is vice-president of the Kansas Crop Improvement association.

Terracing to Prevent Soil Erosion

H. E. Myers, '28

The only type of terrace used extensively on general farms in this country is the "Mangum," or broad base terrace. It is practically unknown in Kansas, but in states east and south of here it is much more common. Even in these latter sections it is not as extensively used as its value merits. By means of the Mangum terrace the surface run off water is checked in its flow, thereby reducing soil erosion during heavy rains. The terrace should always be used in connection with a good cropping system.

The terrace is constructed so as to resemble a roadbed running around the hill. A number of these broad ridges are put in at intervals from the top of the hill to the bottom, the distance apart depending upon the slope of the land, the type of soil, and the character of the subsoil. In general a terrace shoud be so constructed that there is a vertical drop of five or six feet from one terrace to the next lower one. The fall of the terrace, in most instances, should be approximately six inches in every 100 feet of length.

The first operation in the construction of a system of terraces is the staking out of the terrace lines. If a surveyor's level is not available, a simple homemade level can be used for this purpose. The homemade level is constructed of one- by four-inch boards put together in the form of an "A," the feet of which are 16 2-3 feet apart. A carpenter's level is attached to the cross-bar of the frame. It can be checked for accuracy by leveling on a level surface. To use this instrument for staking out a terrace with a fall of 6 inches in 100 feet, one inch is sawed off one of the legs. Beginning at the source of the terrace and going down toward the outlet, the short leg is set at the point where the terrace is to be started. After moving the long leg forward, the instrument is leveled. Next move the instrument forward and place the short leg at the point located by the long leg in the first set up and level again. In this way proceed down the hill—each point located being one inch lower than the previous point.

If a surveyor's level is used, stakes should be set at 50-foot intervals with about a three-inch drop from one to the next toward the outlet.

The next step is the actual construction. The terrace nearest the top of the hill should be built first, for if a heavy rain should come before all the terraces are completed the run-off might wash out the lower terraces if they are put in first.

The terrace may be constructed by the use of a road grader, a ditcher, a homemade V-shaped drag, a plow, or a combination of these implements. The most satisfactory method is by the use of a plow and a small road grader. The first furrow must be run carefully so that it will follow a smooth curve. About six furrows should be thrown together and the soil pushed toward the center with the grader. After two or three rounds have been made with the grader, four to six more furrows should be plowed and the soil from these thrown up as before. This method should be continued until the base of the terrace is 15 to 20 feet wide and the center 12 to 15 inches higher than before grading. In crossing a low place or gulley it is best to fill in to a uniform height and with a somewhat wider base than the rest of the terrace. This is best done with a slip scraper.

The outlet for the terrace is often given too little consideration. Proper cooperation among farmers may make it possible to secure more suitable outlets than otherwise would be possible. A permanent, well sodded woodlot or pasture is an ideal place for discharging the water from the terrace. The public road is sometimes used as an outlet, but this frequently is objectionable, owing to the excessive eroding of the highway ditches. Sometimes a large ditch that cannot be filled is used. In this case several soil-saving dams should be installed at intervals along the

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THE KANSAS AGRICULTURAL STUDENT

KANSAS STATE AGRICULTURAL COLLEGE

MANHATTAN, KANSAS

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MINIMUM SCHOLARSHIP REQUIREMENTS

The expenditure on the part of the state for higher education is so great that no state educational institution is justified in retaining young people within the institution who do not meet minimum scholastic requirements. To provide for the elimination of unworthy students, definite standards have been established and those who fail to meet them of necessity suffer the penalties.

At the close of the first semester of the school year, 1926-27, approximately 7½ per cent of the students enrolled in K. S. A. C. were automatically suspended for the second semester and summer school term because of scholarship deficiencies. In the Division of Agriculture, 8.6 per cent were thus suspended. Another group of students were by college rules placed on probation for the second semester because of unsatisfactory scholarship the first semester. In the Division of Agriculture this group of students constituted 8.6 percent of those enrolled the first semester. Thus altogether in the division, 17.2 percent of first semester students were penalized according to college rules for having done distinctly unsatisfactory college work.

Why did these students fail to "make good," as measured by college rules? The answers are far from simple. Some had too much money to spend and after spending it had too little time left for college work. Some had too little money and after earning their necessary funds by outside work had too little time left for college work. Some were without purpose, just ordinary loafers, who failed to exert themselves sufficiently to get results. Some engaged too strenuously and seriously in college activities or social affairs and thus failed to give their regular work the necessary time, thought, and energy. Undoubtedly, some students honestly tried but because of lack of mental ability or failure to make necessary mental adjustments, did not measure up to the minimum requirements of the college.

Occasionally a student who has been eliminated from college temporarily by a poor semester's record will return later and make an outstanding college record. Possibly his suspension has enabled him to find himself and to understand the necessity of intense application to college work. He, therefore, returns with a definite purpose in mind and a determination to put first things first. In his new record he exemplifies the old saying,

"Experience is a dear teacher, but it TEACHES."

Prospective college students should remember that as a rule, honest, faithful, purposeful, serious-minded, college students succeed. They succeed by regular, persevering hard work. No division in K. S. A. C. is bidding for any other kind of students. Such college students do not work in fear of being eliminated by failure to meet minimum requirements. They are inspired by the determination to meet high standards and to lead in worth-while accomplishments.

DEVELOP BY SUPPORTING WORTH-WHILE ACTIVITIES

In the Division of Agriculture there are departmental clubs that merit support. Opportunities are present in every departmental club to achieve greater things. The club is a good place to get acquainted and learn about your field, but it also gives an opportunity for each man to demonstrate his ability and to be recognized by his associates for his capacity for work, dependability, and leadership.

The departmental club leader instead of being the non-thinking follower, the occupant of a back seat in his club, will be the head of a club committee or manager of a part of the Ag Fair, not because he chose to be head of the committee, but because he used his ability, put his smaller tasks across, and has been chosen for a larger job.

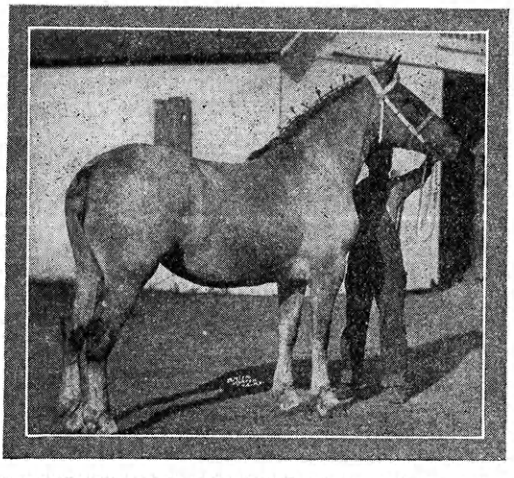
These activities are only a few in several that test a college man's ability. The places on all the college teams are open to the best competitors. The heads of the organizations of the entire school are places that any one can have who has demonstrated real ability. Each one offers a real opportunity for a person to test himself. Success in any of these activities is an index of leadership.

True success should signify to the individual a task well done. The individual should regard it as further training for accomplishing the task just ahead. In addition to the experience, it should give a man faith in himself and a desire to do more things and do them better in the future.

Success in any particular job means greater resposibilities and greater opportunities. The man who climbs up such a ladder in college is the one whom the whole division misses when he is graduated and gone; the greater his success the longer he will be missed.

OUR COVER PAGE

We present on the cover page of this issue by the courtesy of F. E. Colburn, college photographer, Farsar, the senior herd sire of the college Belgian stud. Farsar was senior and grand champion of the American Royal Livestock Show in 1922. He is a son of that great breeding stallion, Farceur, who sold for $47,500. The records of Farceur's progeny



FARSARELLE, DAUGHTER OF FARSAR, JUNIOR AND GRAND CHAMPION, KANSAS STATE FAIR, 1926

have given him the distinction of being the greatest Belgian stallion that ever set foot on American soil. Farsarelle, a daughter of Farsar, was junior and grand champion at the Kansas State Fair at Hutchinson in 1926. A son of a full sister in the stud was junior and grand champion at the American Royal Livestock Show in 1926 and her progeny headed the "produce of dam" class.

ALPHA ZETA MEMBERSHIP

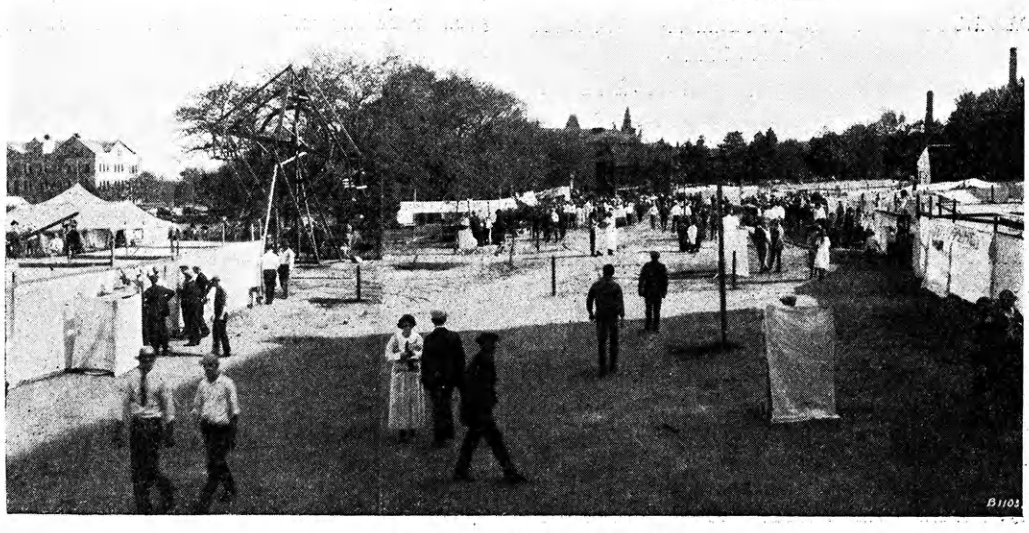
There is distinction in being president and leader of a departmental club. There is added honor in being the president of the ag-

ricultural association, manager of the Ag Fair, or member of a college judging team. It is worth while to take active interest in debate, oratory, music, athletics, and be a winner in the competitions in them. It is likewise worth while to be at the top of one's class in scholarship.

In the Division of Agriculture the fraternity of Alpha Zeta recognizes the men who are at the top. To be elected to Alpha Zeta a man must be a good student. His grades must place him in the upper two-fifths of his class. He must also be a leader among his fellows. This means he must be in the departmental club work, loyal to the activities of the division, active in competitive activities, and near the top in some of them. He must show ability to solve problems, assume responsibilities, meet emergencies, and do the task to which he is assigned successfully. He must be a champion of the cause of agriculture, acquainted with the problems in his field, and give promise of becoming a standard-bearer for an agricultural cause.

Men who show ability and have been successful in these individual activities are brought together in the fraternity of Alpha Zeta. It is a group of men who have pushed to the front in school work of all kinds, and who give every promise of becoming a real asset to agriculture. Recognition by Alpha Zeta means something accomplished, something done, and promise for greater achievement in the future.

It is a combination of successes that puts a man in Alpha Zeta. Election to Alpha Zeta stands alone as a supreme honor. It is one of the greatest honors that can come to an agricultural student.



A TYPICAL AG FAIR SCENE

THE AG FAIR

The Ag Fair is the biggest project undertaken by the students in the Division of Agriculture. The entire division is brought together in cooperation to put the job across. Some responsibility is placed on every student. It is a great place for students to show their ability.

A student's work in the Ag Fair seems to index him in the entire division. Frequently when students gather together to select a man for a job they ask "What did this man do in the Ag Fair last year?" If the head of the committee or others can give a strong

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College Notes

GAMMA SIGMA DELTA INITIATES TWENTY-SIX NEW MEMBERS

The regular spring election of the Honor Society of Argriculture, Gamma Sigma Delta, was held March 14, and 26 seniors, graduate students, and faculty members were initiated Tuesday evening, March 22. The new members are:

UNDERGRADUATE STUDENTS

I. Milburn Atkins	Oleve M. Manning
Carl M. Carlson	Russell Reitz
Ernest I. Chilcott	George J. Stewart
Raymond H. Davis	Collins W. Thole

Glen I. Johnson (Agricultural Engineering)
Earl F. Graves (Veterinary Medicine)

GRADUATE STUDENTS

W. S. Beardsley, Connecticut Agr. Coll., 1926
Benjamin R. Coonfield, Univ. of Arkansas, 1926
J. E. Foster, North Carolina State Coll. of Agr. and Engrg., 1926
R. L. Foster, K. S. A. C., 1922
Nelle Alice Hartwig, K. S. A. C., 1926
Earl H. Herrick, K. S. A. C., 1926
C. B. Hudson, K. S. A. C., 1926
Hoon Koo Lee, Korean Agr. Coll.; Tokyo Imperial Univ.
Glenn W. Long, Baker Univ., 1926
Margaret Newcomb, K. S. A. C., 1925
Lloyd Ancil Spindler, K. S. A. C., 1926
H. O. Stuart, Pensylvania State Coll., 1925
Naomi B. Zimmerman, Univ. of Nebraska, 1919; M. S., 1922

FACULTY MEMBERS

R. L. Parker, Associate Professor of Apiculture
S. C. Salmon, Professor of Farm Crops
J. P. Scott, Associate Professor of Pathology

This honor society elects to its membership not to exceed 15 percent of the senior class in the Division of Agriculture and no student is eligible to election whose scholarship standing does not place him in the upper 25 percent of the class. Character and qualities of leadership, as well as scholarship, are considered in the elections. A limited number of seniors in other divisions, who measure up to these requirements and whose major work is closely related to agriculture may be elected. Graduate students must have a scholarship standing half way between a "G" and an "E" grade or higher, and must be strongly recommended by their instructors as to character, personality, and leadership. Members of the faculty are elected only on recognition of outstanding work along some agricultural line.

KANSAS WINS THIRD AT DENVER

The junior stock-judging team of Kansas State Agricultural College placed third in the intercollegiate judging contest held at the National Western Livestock Show at Denver, January 15, 1927. Four teams competed in the contest, their ranking and scores being as follows:

Rank	Team	Score
1st	Nebraska	3,424
2d	Coloroado	3,403
3d	Kansas	3,384
4th	Wyoming	3,329

The Kansas team was composed of Merlyn W. Mann, Quinter; F. Dale Wilson, Jennings; E. A. Stephenson, Alton; H. L. Murphey, Protection; V. E. McAdams, Clyde; and I. K. Tompkins (alternate), Byers. The Kansas team was high in each of the seven cattle and hog classes. Mann was high individual on the Kansas team and second in the entire contest. He also won a gold watch for being high point man in the judging of the breeding classes. Wilson ranked second in judging the breeding classes, and Stephenson, third.

Prof. H. H. Kildee of Iowa State College judged the contest. Prof. F. W. Bell, coach, accompanied the team to Denver.

SECOND ANNUAL BABY CHICK AND EGG SHOW

The catalog of the Second Annual Baby Chick and Egg Show to be held April 20 to 23, 1927, has been distributed. The first show, held last spring, was successful beyond the expectations of its sponsors and managers and the second promises to be of enlarged interest and value. The show is sponsored by the Department of Poultry Husbandry and managed directly by a board of student members as follows: Superintendent, E. A. Moody; secretary, R. W. O'Hara; treasurer, A. W. Miller; advertising manager, P. B. McMullen; and entry manager, T. R. Freeman.

G. T. Klein, M. S., '26, is extension poultryman in K. S. A. C.

SEVENTH ANNUAL AG FAIR

Preparations are well under way for the Seventh Annual Ag Fair to be held on the north campus Saturday, April 30, 1927. The opening feature of the fair will be the parade through the Aggieville and downtown districts starting promptly at noon. Each department of the Division of Agriculture, the freshmen of the division, and several other departments of the college will be represented in the parade by floats. Edward A. Stephenson is in charge of the parade.

The fair will open at 2:30 p. m. Chief among the attractions will be the follies, minstrels, special horse-riding stunts, and sideshows. Along with these entertainment features will be placed the educational exhibits which will be sponsored by the departments of the division with the cooperation of the departmental clubs, and also by several other college departments. An effort will be made to excel both in number and interest the worthy educational exhibits presented last year. In the evening a dance will be added to the list of attractions.

Joe Thackrey will direct the follies. Thackrey is running over with talent along entertainment lines. He has had a unique and varied experience both in outdoor life and on the chautauqua circuit. The follies under his direction will undoubtedly maintain their fine reputation as entertainers.

The minstrel show will be in charge of Russell Reitz, who will be assisted by several men experienced in presenting such performances. Reitz, himself, is usually considered more serious than the average student but he also makes an A-1 man on a minstrel show and the show this year promises to be a hummer.

W. J. McMillen will have charge of the horse-riding stunts to be presented in the afternoon, a feature of the afternoon's program that is to replace the rodeo of previous years. I. M. Atkins and L. M. Clausen will have charge of the educational exhibits. Paul Axtell will be general manager of the dance. C. R. Bradley and J. H. Johnson will have charge of concessions. G. B. Wagner will manage the sideshows.

The board of directors of the Seventh Annual Ag Fair consists of the following students: Raymond H. Davis, manager; Vance M. Rucker, assistant manager; H. L. ("Pat") Murphey, Sec.-Treas.; and H. H. Brown, fourth member of the board. They ask for the support and cooperation of every student in the Ag division to make the fair a real event worthy of the support of the college and community. They have invited many students of other divisions of the college to assist and are especially appreciative of this outside cooperation.

STUDENTS' ANNUAL JUDGING CONTESTS

Each spring the Departments of Agronomy, Animal Husbandry, and Dairy Husbandry hold judging contests open to any student in the college. These three contests are among the most important second-semester events of the Division of Agriculture. Each contest is divided into a junior and a senior division in each of which suitable and valuable prizes are given. These contests this spring will be on the following dates:

Grain Judging Contest, Saturday, April 9.
Dairy Judging Contest, Monday, May 9.
Stock Judging Contest, Saturday, May 14.

SEVENTH ANNUAL HIGH SCHOOL JUDGING CONTEST

The annual state high school contest in the judging of farm products is recognized as an event of prime importance both to K. S. A. C. and to almost 100 high schools of the state including practically all of the high schools teaching vocational agriculture. This important spring event (the seventh annual contest) will be held Thursday and Friday, April 21 and 22, 1927.

There are four sections in this contest: (1) Beef cattle, horses, hogs, and sheep; (2) dairy cattle; (3) grain; and (4) poultry. The contestants devote a half day to each section. Ten prizes, parchment certificates and medals, are offered as follows: A parchment certificate to the team winning the state championship—making the highest general

average in the entire contest, and another to the individual making the highest general average in the entire contest. Two prizes in each of the four sections of the contest, one, a parchment certificate to the winning team and one, a medal, to the high individual. Besides these ten prizes many ribbons of merit or honorable mention will be given to the runners up.

The high school team representing the Chase County Community High School (Cottonwood Falls) and coached by L. F. Hall, '22, won the state championship in 1926. Sixty-one high schools were each represented by a team, three contestants. Several other schools had individual contestants. It is probable that 70 to 75 high schools will enter teams for the contest April 21 and 22.

THE FIRST ANNUAL AGGIE DAIRY SHOW

Members of the Dairy Club at Kansas State Agricultural College decided last fall that the students of the college needed more practical knowledge of the showing and fitting of dairy animals. As a result, the Aggie Dairy Show was held February 9 and 10, during the annual Farm and Home Week program of the college. Having the show at this time was of value to college students and the state as a whole, as prominent dairy-men from all over the state were in Manhattan for Farm and Home Week and saw the practical value of the contest and show.

Due to the combined efforts of the faculty of the Department of Dairy Husbandry, the Dairy Club, and several score of college students, the show was a remarkable success. The contestants showed much interest in their animals and worked during their spare time clipping, grooming, washing, scraping, and polishing horns and hoofs, taking as much interest in training the animals to stand and lead as if each had been the exhibitor's personal property.

Instructions were printed and furnished contestants by the Dairy Club. This printed matter gave complete directions for fitting and showing; also directions for making a rope halter, as each contestant had to make his own halter in order to qualify for the show.

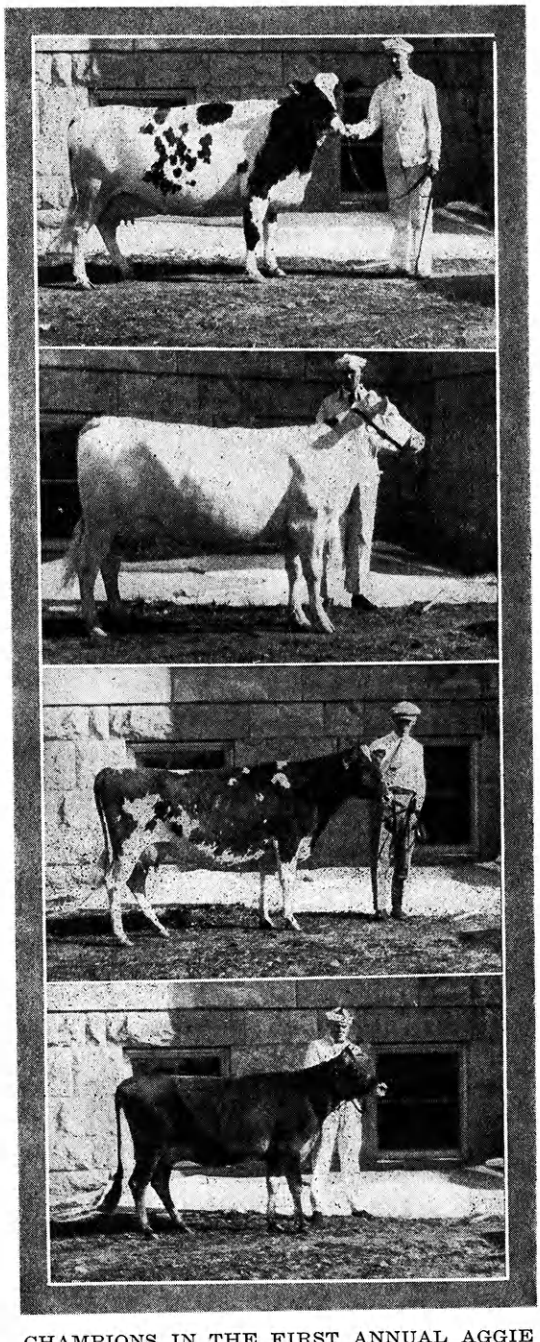
Prior to January 28, the dairy cows and calves to be shown were scored by the judges on six or more points. On January 28, the day set for the fitting to begin, 52 contestants drew animals from the college herd by lot, having only the choice of breeds. When these contestants lined up their entries for the judges' final approval it was almost necessary to consult registration papers to identify some of the original entries, even though but 11 days of fitting had elapsed. The individual improvement was decidedly beyond the judges' expectations and the crowd of spectators voiced their approval of the contestants' efforts by frequent applause during the show.

For convenience in showing, the entries were grouped into twelve classes, three of each of the four major dairy breeds—Ayrshires, Holsteins, Guernseys, and Jerseys. Each breed had an aged-cow class, a class for heifers under two years of age, and a bull class.

The winner of each breed class showed for champion of that breed on February 9, then these four champions showed for grand champion of all breeds on February 10. A silver cup was presented to the grand champion showman by the Chappell Creamery Company of Manhattan and the Dairy Club of K. S. A. C. Three ribbons were awarded in each class in addition to many breed prizes and cash prizes. The awards were based 50 percent on improvement in condition of the animal shown, and 50 per cent on actual skill in showing the animal.

Richard W. Stumbo, showing the French cup winner, B. M's Bangora Melrose, was champion showman of Ayrshires and later received the sweepstakes cup over all other contestants. Mr. Stumbo is a sophomore in the Division of Agriculture and claims Iola as his home. He not only did an excellent job of fitting, but also proved himself a superior showman.

George T. Carls of Wakarusa, a second-year short-course student, was a close con-



CHAMPIONS IN THE FIRST ANNUAL AGGIE DAIRY SHOW

From top to bottom these champion showmen and their entries are as follows: Richard W. Stumbo, champion showman and his entry, B. M.'s Bangora Melrose; George T. Carls and his two-year-old heifer that won the championship of the Holstein classes; Fredrick H. Schultis and his entry, Benefactor's College Frances, champion Guernsey in the contest; and Hugh K. Richwine, showing Wexford's Noble Lucy, champion of the Jersey groups.

tender for high honors, having previously shown the two-year-old that was selected as champion in the Holstein classes. A grand-daughter of the late Fern's Wexford Noble helped Hugh K. Richwine of Holcomb, to win premier honors in the Jersey classification; while Fredrick H. Schultis of Sylvan Grove, won the final award in the Guernsey breed with Benefactor's College Frances.

The first three winners in each class were:

Guernseys

Aged Cow:

1. Fredrick H. Schultis, Sylvan Grove
2. Raymond W. O'Hara, Blue Mound
3. James L. Baird, Wellsville

Heifer:

1. B. I. Melia, Ford
2. Henry C. Seekamp, Mulvane
3. R. W. Batdorf, Ottawa

Ayrshires

Aged Cow:

1. Richard W. Stumbo, Iola
2. F. Dale Wilson, Jennings
3. E. E. Robson, Abilene

Heifer:

1. G. L. James, Mayetta
2. Paul R. Chilen, Miltonvale
3. Harland Stevens, Valencia

Bull:

1. H. L. Haney, Carlton
2. C. E. Lauer, Abilene
3. W. M. Newman, Centralia

Jerseys

Aged Cow:

1. Hugh K. Richwine, Holcomb
2. C. A. Nuttle, Eldorado
3. L. M. McClenny, Valley Falls

Heifer:

1. L. D. Averill, Wellsville
2. A. W. Miller, Manhattan

Bull:

1. E. R. Hauptli, Everest
2. Nelson E. Miller, Muscotah
3. L. F. Ungeheuer, Centerville

Holsteins

Aged Cow:

1. George T. Carls, Wakarusa
2. B. C. Wood, Ottawa
3. L. O. Johnson, Wakarusa

Heifer:

1. T. R. Freeman, West Plains
2. R. E. Gardner, Lawrence
3. O. C. Kottwitz, Peabody

Bull:

1. W. E. Brandenburg, Riley
2. M. L. Cox, Goodrich

The interest exhibited in the contest was far beyond that expected by the Dairy Club, and there will be no question about this show being made an annual event at the college. It will be a place for Kansas breeders to select summer employees who have ability and are efficient in their work. Many breeders were interested in the contest and some have already selected summer employees from the contestants.

The judges for this contest were Clem Young, a well-known Holstein breeder of Manhattan, who was high-point man in dairy judging at the National Dairy Exposition in 1920; J. W. Linn, K. S. A. C. extension dairyman and noted Ayrshire breeder and judge; and Prof. H. W. Cave of the Department of Dairy Husbandry of K. S. A. C.

—R. L. R., '28.

Edward Watson, '24, is field man for the Consumers League, Kansas City, Mo.

Stanley Caton, '27, (first semester), is manager of the Hatcher Hatchery, Wellington.

R. R. Hinde, '20, is now with the American Agricultural Chemical Company with headquarters at Muskogee, Okla.

L. A. Fitz, '02, former head of the Department of Milling Industry, is grain exchange supervisor in the Grain Future Administration of the United States Department of Agriculture. His address is 717 Postal Telegraph Building, Chicago, Ill.

FITTING AND EXHIBITING POULTRY

(Continued from page 76)

4. Label the tubs one, two, and three. In the first one have hot water which is cool enough to allow the washer to place his elbow in it and hold it there for two minutes, having dissolved in it one-half pound of soap. In the second tub place water for rinsing that is about body temperature. In the third tub place cold water.

5. Allow the bird to soak thoroughly in the first tub, then lather the bird thoroughly with soap suds. Be careful not to rub against the grain of the feathers or the feathers will appear shabby when dry. Clean the shanks and feet thoroughly by using a toothpick with which to remove dirt from beneath the scales. Rinse the bird in second tub by holding in the water for two minutes, then drawing it back and forth through the water several times. The last tub is used for the purpose of invigorating the bird by dipping it into the cold water.

6. The birds are dried by wrapping turkish towels about their bodies or allowing them to flap their wings.

The birds upon returning from the show should be given special care and quarantined for at least a week, as there is danger that they may have contracted some contagious disease which would, if allowed to start, be detrimental to the rest of the flock.

ORCHARD SOILS OF DONIPHAN COUNTY

(Continued from page 74)

ter is too loose and fluffy. Of late years several large commercial orchards have been set on the silty clay loam type and from all appearances they will develop into excellent orchards; however, the subsoil is not as open and friable as that of the silt loam type and the Knox series.

SOILS AND ORCHARDS

In summing up the soils it is evident that the farther one gets from the Missouri river the heavier the soils become and a more gentle topography exists. The center of apple production is around Troy and extends east along the railroads to Wathena. Grape and berry production is on the steeper slopes of the Knox soils.

Although the production of fruit commercially in Doniphan county is as yet rather undeveloped, there is no question but that there is a large acreage of land which is suited to the growing of orchards which has not been planted to trees. One of the limiting factors in commercial fruit growing is nearness to the shipping point. This has caused the majority of commercial orchards to be planted near the railroad tracks from Troy east to St. Joseph. Troy, Blair, and Wathena are the large shipping centers for apples and berries.

Observations of 98 orchards totaling approximately 1,356 acres, which does not include home orchards, were made and it was noticed that the larger and better orchards were located along the border lines of the Knox and Marshall series of soils. The majority of the older orchards were on the Knox silt loam but recently where large young orchards are being set, they are planted on the Marshall silt loam and the Marshall silty clay loam where the topography is somewhat more gentle and erosion is less. An analysis of these observations is given in the following tabulation:

	Num. of Orchards	Acreage
Marshall silt loam	30	570.5
Knox silt loam	38	466.5
Marshall silty clay loam	14	212.0
Knox silty clay loam, heavy subsoil phase	8	57.0
Marshall silty clay loam, buff to reddish buff color due to erosion	2	17.4
Wabash silt loam (first bottom)	4	27.9
Limestone soils	1	2.0
Steep phase of Knox silt loam	1	3.0
	98	1,356.0

ORCHARD CULTURE

Most of the orchards when young were grown with corn as an intercrop; then as they grew older clover sod or bluegrass sod was used to prevent erosion.

This practice still exists. The greatest trouble where corn is used as an intercrop is that the young trees are crowded too much and frequently the corn, together with weeds and grass, kills some of the trees.

Alfalfa and clovers are extensively used by the better orchard men as soil improvement

crops in the orchards. Frequently the clover is plowed under while green and growing, thus adding nitrogen and organic matter to the soil. Nearly all orchard men use the sod culture method for aged trees. It is quite noticeable that the care of orchard soils as a whole is neglected more or less. The trees are also frequently neglected. If better care, such as pruning and spraying, was exercised no doubt the production of fruit could be increased both in quantity and quality.

CONSERVING SOIL MOISTURE

(Continued from page 71)

chard, when there is little spring rain it will make the necessary and desired mulch to collect the winter and spring rains, but will not add as much humus-forming material in the spring when it is plowed under.

As abundant humus is desired in the soil, it is best to plant a hardy crop whenever possible. When hardy crops are grown they should be plowed under as soon as they form considerable growth and before or soon after the trees start spring growth. If the cover crop is allowed to grow too late in the spring it will rob the trees of moisture and leave the ground cloddy when plowed. Later, because of clods and strawy material in the soil, much additional moisture will be lost.

Clean cultivation with a cover crop is the best way of treating the orchard as it conserves the run-off water, adds humus, and puts the soil in good condition. Cultivation throughout the summer at frequent intervals keeps any weeds from starting and keeps the soil loose enough to permit ready penetration of rainfall.

Straw and grass mulches are very beneficial in securing and holding soil moisture. Where straw is plentiful it can be spread around the trees in summer and fall to collect the fall, winter, and spring rains. When orchards have to be kept in sod because of the danger of erosion, the grass should be cut at intervals and spread around the trees to act as a mulch. It should be remembered that it takes considerable moisture to grow

the grass, hence this method is undesirable when there is danger of drouth. In some cases orchards that are now grown in sod because of fear of erosion should be cultivated providing the cultivation was done in accordance with the laws of controlling erosion of hillsides.

TERRACING TO PREVENT SOIL EROSION

(Continued from page 79)

ditch to prevent further erosion. Where no natural ditch is available and where the water cannot be dumped on adjoining land, a line of tile sometimes may be installed for carrying off the water.

One mistake that is liable to be made is attempting to terrace very steep slopes, but not bothering with the moderate slopes. It is not satisfactory to terrace steep slopes and then attempt to cultivate them, for on a steep slope the terraces must be placed so close together that it makes their construction too expensive. The land would also be made difficult for cultivation by the terraces being so close together. Furthermore, under these conditions the terraces are very hard to maintain. Land with a slope of more than 15 feet in 100 feet should be kept in grass or hay crop to get the best results from terracing.

The terrace must be maintained carefully after construction or it is very likely to be a failure. The terrace should be constructed in the fall, and preferably the land should be sown to wheat that same fall. The following spring sweet clover or red clover should be seeded with the wheat, if the region is adapted to this method of seeding clover. The terrace will thus be held for two years until it is again plowed. After it has become well settled about the only attention that need be given it is the throwing up of the soil toward the center when plowing, or the rounding of the ridges with a road grader. Otherwise it will be filling in gradually at the base of the ridge and during a heavy downpour the water will go over the top, cutting a gulley through it.

The cost of terracing has been estimated as being about $1 to $1.50 per acre. It will probably cost 50 cents per acre per year to maintain the terrace in good workable condition. The actual cost of construction, however, is affected by the slope of the land and the type of soil.

A FARM ON ITS OWN "FEET"

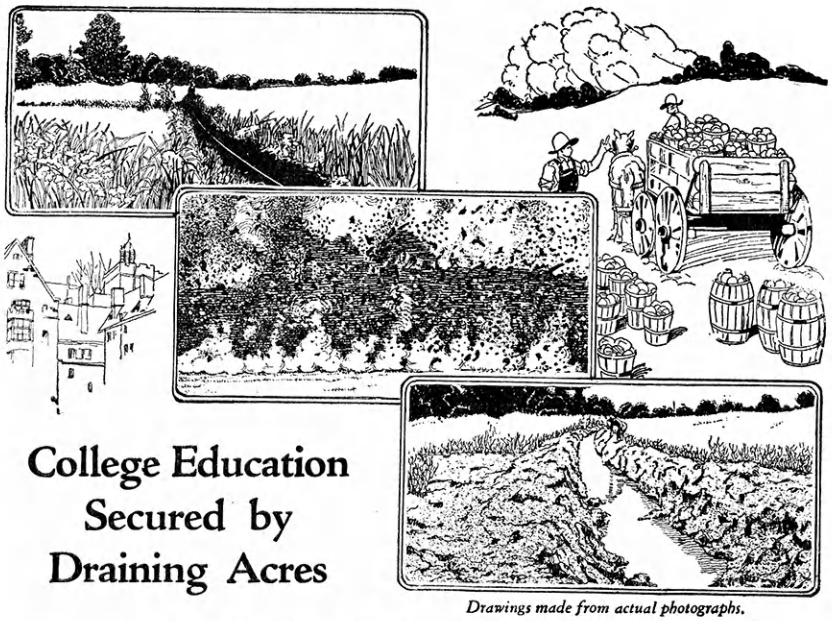
(*Breeder's Gazette*, December 23, 1926)

I doubt whether there is a farm in the United States that is more self-sustaining than the one operated by John W. Foard, near Hopkinsville, Ky. He and his wife moved onto this farm 58 years ago, and have made it produce practically everything that the family, the livestock, and the farm itself have consumed during their occupancy of it. He bought it with nothing and made it pay itself out of debt. He has made it produce every variety of fruit and vegetable that the family like, and all the milk, butter, eggs, and meat that the family consume. He grows and manufactures the tobacco that he uses, stores away in the winter every pound of ice used during the summer, and has put up nearly all the buildings on the farm with timber grown on the farm. He sells 50 to 100 hogs every year, farrowed by his own brood sows; has a herd of 20 purebred Jersey cows, built up from a foundation cow, and has raised every work horse and mule that he uses. Every pound of feed consumed by his stock is produced on his own soil, and, with a few rare exceptions in the case of hogs, he has bought only one load of corn during the 58 years of his occupancy of the farm.

With the exception of the original mortgage, which he finished paying off nearly 40 years ago, he has not borrowed a cent, but has made the farm produce the revenue with which he has operated it. Since the present farm depression set in five years ago he has stood practically alone in his section as a man who has not had to consult his banker, and he owes not a dollar in the world.

He has a revenue of $5,000 to $6,000 a year on his 225-acre farm, which is derived principally from dairy products, hogs, and tobacco. His home is equipped with

(Continued on page 92)



College Education Secured by Draining Acres

Drawings made from actual photographs.

$2500 Worth of Muck Land Reclaimed at Cost of Only $200

TWO high school boys wanted to go to college, earnestly enough to work for their expenses. Their father, one of the owners of the Hartnagle Brothers Farm near Newark, N. Y., made them this business-like offer: "Drain the ten acres of muck land and you can have the proceeds of the crops raised on the land".

The boys figured, asked questions, and finally decided to blast the ditches with dynamite.

After laying out the ditch line and punching holes to contain the necessary cartridges of 50% du Pont Ditching Dynamite, a cartridge containing an electric blasting cap was placed in the center hole with wires leading to a blasting machine in a safe position. Down goes the handle to the blasting machine! BANG! Into the air is thrown muck, marl and stumps and scattered over the surface. Immediately the water begins running down the blasted trench.

Ten acres of idle muck land produced the crops whose sale enabled two boys to pay their college expenses. A permanent, profitable improvement secured at a cost of $1.20 per rod.

Do you know what you can do with explosives on the farm? Let us send you—"The Farmers' Handbook of Explosives"—100 pages of illustrations and practical information. Used as a text-book by many agricultural colleges. Ought to be in your reference library. Send for FREE copy NOW.

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The Practical Value of a Livestock Show

Orville R. Caldwell, '28

Is a livestock show an asset or a liability? Does it set up false standards and fads in livestock production? Is a big livestock show such as the American Royal or the International merely a meeting place for pedigreed livestock with fancy names so that their owners may exchange animals at exorbitant prices, or does it have some real value to the producer of market animals? Such questions are often asked concerning livestock shows.

No one will question the advisability of producing high-grade market animals rather than inferior ones. (Please bear in mind that high-grade and pedigreed are not synonymous terms.) It costs a little more to breed high-grade livestock, but they grow faster on the same feed and bring a higher price on the market.

A big livestock show brings together some of the best livestock in the country, both grades and pure-breds. Here the animals meet in open competition according to breed and class. They are judged, not on pedigree, not on price for which they may have been sold, but on individual merits. This sets up a standard toward which other breeders may work. It encourages production from the best animals and discourages production from inferior ones. Since it is from these best herds that improvement of market animals usually comes, it is evident that these big livestock shows will encourage the production of better market animals.

The educational value of a livestock show is not to be overlooked. In fact it is one of the best reasons for having a show. Large numbers of high-grade and purebred livestock afford an opportunity for study which book learning cannot duplicate. A large number of producers follow closely the judging of the particular class of livestock in which they are most interested. The judges set a goal toward which producers can work and thus the livestock show becomes a great inspiration for producing better livestock.

A large number of students always attend a livestock show. Judging contests afford excellent competition and the rewards incite the contestants to become more proficient judges. Contests are arranged for teams from various agricultural colleges; for teams from high schools teaching vocational agriculture; and for teams from 4-H clubs. The high school and club contests, especially, are of great importance because they teach the farm boy how to distinguish between high-grade and inferior livestock and create a desire for better and more profitable livestock.

A FARM ON ITS OWN "FEET"

(Continued from page 90)

electric lights, waterworks, a bathroom, hot and cold water, and is elegantly furnished. Water is piped to barns, lots, and every field on the farm. He did not go in debt for anything but the land itself, and has added all the buildings now on the farm, and all the conveniences only after the farm produced the cash with which to do it.

—R. L. Holman, Marshall Co., Tenn.

L. C. Aicher, '10, is superintendent of the Fort Hays branch of the Agricultural Experiment Station, Hays.

J. L. Lush, '16, M. S., '18, Ph. D., University of Wisconsin, is now animal husbandman in charge of animal breeding in the Texas Agricultural Experiment Station.

Max M. Hoover, '24, M. S., '25, instructor in agronomy in the College of Agriculture, West Virginia University (Morgantown), has written an article in the March issue of the West Virginia Agriculturist. His subject was "Judging and Student Training." Mr. Hoover says that the student in his judging work derives the ability to think independently, organize his material, and express himself in a definite, clear, and confident manner.

When the Wash Tub Disappears

WASHING—week after week—has always been the bane of the farm woman's life. Now, on farms with electricity a little motor does all the hard work of a big wash for a few cents. The whole operation, from sorting clothes to "hanging out," often takes less than an hour.

Electric motors also pump water, clean carpets, churn, and run the sewing machine. And the men find their work is made easier with the electric milker, separator, and cooler, the motor hoist—and the light of MAZDA lamps.

The old wash-board is put away on the electrified farm. There is more time for everybody to enjoy the pleasanter things of life.

If you are on an electric line or hope to be soon, ask your electric power company for a copy of the G-E Farm Book which explains many uses for electricity on the farm.

General Electric makes motors for washing machines. Look for the G-E monogram when you come to buy—it is a symbol of dependable performance and long life under hard farm use. Your Wiring System, lamps, and other electrical equipment should also bear this monogram.

GENERAL ELECTRIC

210-26B

Spindle-Tuber of Potatoes

D. N. Taylor, '28

Spindle-tuber is a disease of Irish potatoes. The Irish cobbler and pearl varieties are most susceptible but there are no varieties that are resistant. The disease occurs in all regions where potatoes are grown extensively, and has probably been quite generally present for years. The disease commonly causes a decrease of one-third to one-half in yields.

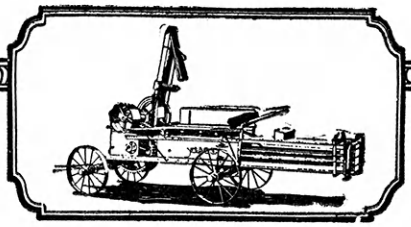
A TYPICAL SPINDLE-TUBER PLANT AND SOME TYPICAL DISEASED TUBERS

In the field diseased plants can be told readily by the dwarfed condition. Diseased plants stand very erect and do not spread out as potato plants normally do. The leaves are smaller than normal with a tendency toward marginal leaf roll, but are not thick as in typical leaf roll. Moreover, diseased leaves do not have the ordinary luster, but are of a dull green color.

The tubers affected by spindle-tuber can be told by their shape, being long, slender, or "run out." They have a large number of eyes, which are very shallow, sometimes even bulging. The normal Irish Cobbler is round in shape with few eyes, which are deep.

The disease is disseminated by cutting knives and by the contact of cut surfaces. Insects probably spread the disease in the field, the leaf hopper being the most suspected.

The surest way now known for the control of this disease in Kansas is by the use of certified seed. In the purchase of certified seed, the purchaser may be assured that the plants have been inspected for this disease as well as other diseases. In Minnesota the potato field is inspected and if the inspector finds more than 2 percent spindle-tuber the field is rejected for certification. If he finds less than 2 percent he tells the grower that those spindle-tuber plants must be taken out by the next time he inspects the field or it will be rejected. The grower then rogues his fields. To do this he goes through the fields and cuts out all the hills showing spindle-tuber. The inspector comes around again and if he finds over 1 percent spindle-tuber the field is rejected. The fields showing 1 percent or less are passed and further roguing advised. At this roguing the plants showing spindle-tuber are pulled up and the plants and small potatoes are destroyed. After the potatoes are dug and in bins the inspector



All Power Has Its Cost

FARM power and labor that seem to cost the least are often the most expensive. For instance, if you had 2000 bushels of grain to thresh, which would you rather do—take a flail and thresh it yourself at seemingly no cost, or pay a thresherman? Would 200 days of back breaking labor cost you more, or less, than the thresherman's bit?

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All power has its cost. The returns determine its economy. Human muscle, oxen, horses, mechanical power—each has had its chance in Agriculture and each in turn, has supplanted or is supplanting the other. This is the reason for the great movement toward labor saving machinery that is now reorganizing Agriculture. Everything else has proved too expensive.

In this great movement Case machines are playing no small part. The reputation of Case tractors, threshers, combines and other Case products as labor saving, money making machines is well established wherever profitable modern farming is practiced.

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again inspects the potatoes. If he finds more than 1 percent spindle-tuber he rejects the lot and does not pass them as certified potatoes. In Kansas it has been found that certified seed has contained from 1 to 3½ percent spindle-tuber while noncertified seed has contained from 8 to 10 percent in some cases.

Another advantage from certification is that it reduces the number of normal-appearing tubers that are carrying the spindle-tuber virus, due to having been infected late in the season. Roguing eliminates infected plants early in the growing season and, to a large extent, prevents dissemination of the disease to healthy plants.

In order to further control spindle-tuber it is advised to run the seed over a grader and pick out off-varieties and spindle-tuber potatoes before the seed is cut. This eliminates one method of dissemination, by cutting knives and contact of cut surfaces, and also largely eliminates the planting of the spindle-tuber sets in the field. Such plants yield very few United States No. 1 potatoes.

TANKAGE A VALUABLE CORN SUPPLEMENT FOR FATTENING PIGS

One phase of the pig-feeding experiment conducted last summer was to determine the value of tankage as a protein supplement for fattening spring pigs on alfalfa pasture. The pigs used weighed approximately 90 pounds each and the feeding test covered a period of 115 days. One lot of these pigs was fed corn and tankage in a self-feeder and another lot was fed corn alone in a self-feeder. Both lots were run on alfalfa pasture of similar quality.

The pigs receiving no tankage gained 0.85 pound per head per day; those receiving tankage, 1.34 pounds. The pigs receiving no tankage required 441 pounds of corn to produce 100 pounds of gain; those receiving tankage, only 360 pounds. Where no tankage was fed, the cost of gain was $6.62 per hundred, but where tankage was fed, the cost was only $6.02 per hundred. The pigs fed tankage were fat and ready for market at the close of the experiment and were valued at $12.50 per hundred; whereas the pigs that received no tankage were not fat enough for market at the close of the experiment and were valued at only $12.30 per hundred.

The hogs that were fed tankage returned $6.78 per head for pasture, while those receiving no tankage returned $2.22 per head for pasture consumed. In this test 1 pound of tankage fed free-choice in a self-feeder saved 4.6 pounds of corn in producing 100 pounds of gain. In other words, at the price of corn used in this test, 84 cents per bushel, a ton of tankage was worth $138.

SWEET CLOVER A VALUABLE PASTURE FOR FATTENING PIGS

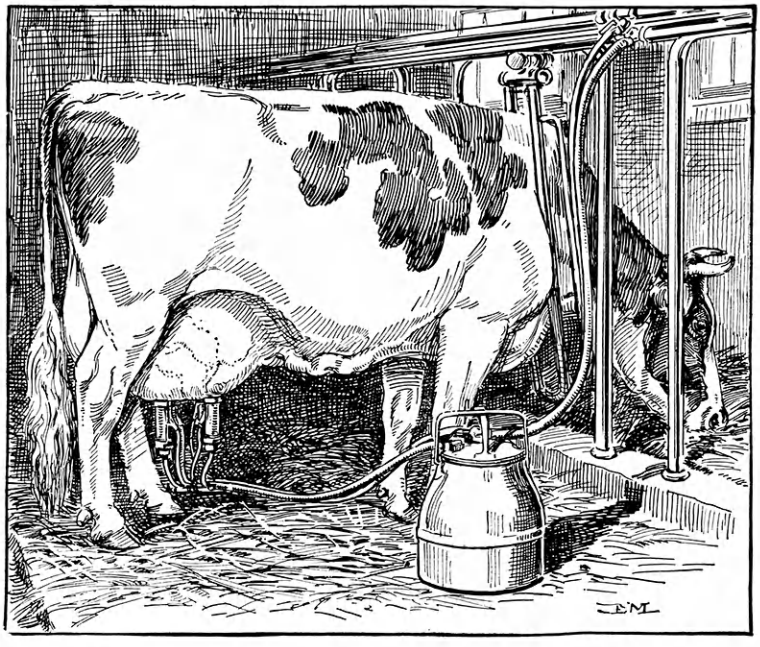
An experiment in feeding spring pigs on pasture conducted last summer confirms the results of previous experiments that sweet clover can be used quite as advantageously as alfalfa as a pasture for fattening pigs. In fact, last summer, sweet clover excelled alfalfa as a pig pasture crop at Manhattan. The sweet clover remained fresher and more succulent during the hot months, the cost of gain being the same for the pigs on sweet clover pasture as for the pigs on alfalfa pasture. According to the carefully compiled figures of the department, sweet clover returned $7.69 per head, and alfalfa, $6.78 per head, for pasture consumed.

THE AG FAIR

(Continued from page 82)

statement in favor of the individual, it carries a great deal of weight for future responsibilities.

The time for this big event is near at hand. For one's own reputation and good name he should be willing to do his best for the Ag Fair. Another good reason for supporting the Ag Fair, aside from individual profit, is the loyalty an Ag student owes to the Division of Agriculture. No man can afford to try to "slip by" without doing his full quota of work to make the Ag Fair a success. It will be distinctly worth while for each man to do his best and assume his full responsibility for the enterprise. Let's get in somewhere and cooperate and push.



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Proof of the overwhelming superiority of De Laval Milkers is shown in the rapidly increasing numbers which are being put to use by progressive dairymen everywhere. With more than 650,000 cows (including some of the highest producers in the world, and many owned by agricultural colleges, experiment stations, public institutions, producers of Certified, Special and Grade A milk) now milked with De Laval Milkers, the economy and efficiency of De Laval milking is firmly established.

Thousands of De Laval users say that it has made dairying more pleasant and profitable for them, that it milks their cows better and quicker than ever before, and produces more and cleaner milk.

If you are milking five or more cows by hand, a De Laval Milker will soon pay for itself. Your only regret will be that you didn't get one sooner. See your De Laval Agent for full information.

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