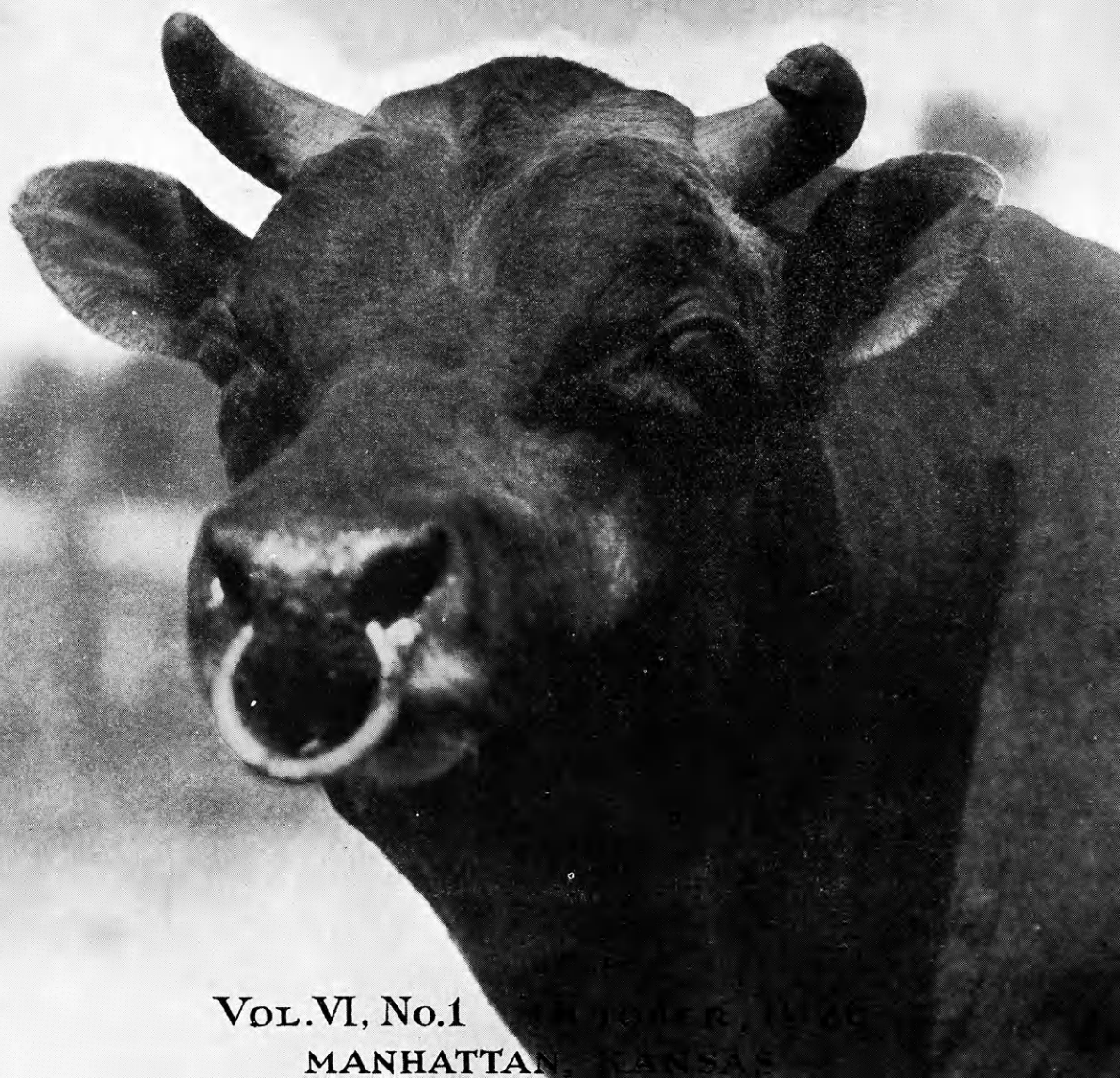
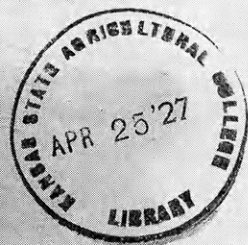


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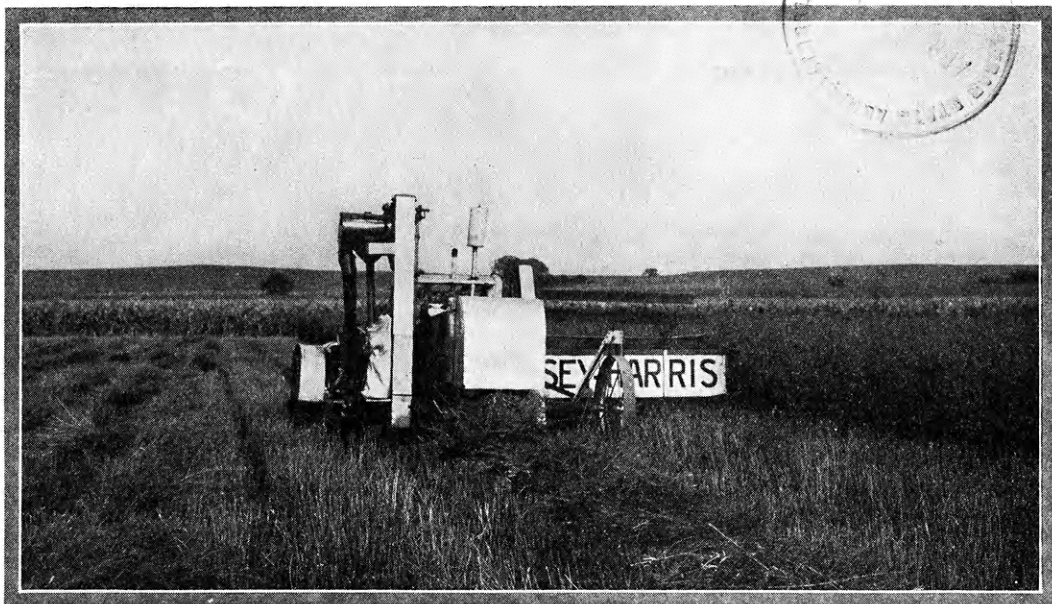
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EARLY FALL PLOWING

Alfalfa stubble is being turned under as a beginning of the preparation of the land for corn in the spring, a good farm practice in much of the eastern half of Kansas.

The Kansas Agricultural Student

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Manhattan, Kansas, October, 1926

No. 1

Effect of Feed on the Quality and Palatability of Meat

J. Harold Johnson, '27

Probably one of the largest and most exhaustive researches ever undertaken, dealing with meat as a food, is being carried on at the present time by institutions interested in meat production. In July, 1924, the National Livestock and Meat Board initiated a movement which has developed to huge proportions and now has taken the form of a national study of the factors influencing the quality and palatability of meat. In June of the following year, representatives of various agricultural experiment stations were called together for a conference and the plans for the research were laid before them with the opportunity to choose the type of work for which their respective stations were best fitted. The United States Department of Agriculture, the American Society of Animal Production, and the agricultural experiment stations of 26 states, of which Kansas is one, are cooperating in this vast study. Most of the work which has been started has to do with cattle and beef, although three of the stations have started experiments involving lambs and mutton.

There are many factors considered as having an influence on the quality and palatability of meat. However, it was considered unwise to attempt the study of all in the beginning of the investigations. The most important of these factors and those being studied in the first year's work are feed, sex, age, finish, grade in the feeder animal, and type. The quality and palatability of meat, upon which this experiment is based, may be measured or expressed in terms of texture, color, flavor, and the nutritive value. However, accurate methods for measuring the different factors, which are more or less intangible and

which are recognized as basic requirements in this investigation, are very hard to get. Much work must still be done before it can be said that a satisfactory "measuring stick" has been set up.

The particular phase of this enormous project which was chosen by the Agricultural Experiment Station of Kansas deals with the effect of feed on the color, texture, and palatability of the meat. It is a recognized fact that corn-fed cattle always bring higher prices than grass-fat cattle, even though they may be in the same condition. Packers object to grass-fat cattle because they produce carcasses which are rather dark colored as compared to corn-fed beef and are covered with a yellowish-colored fat of less attractiveness than the white fat of the corn-fed animals. Grass-fat animals also produce carcasses which, according to statements of packers, deteriorate with age. Some tests have tended to show that grass beef is not as palatable, and does not have the quality of texture which corn-fed beef possesses. Inasmuch as color of fat seems to be a very determining factor in the salability of beef carcasses and that there is a possibility of grass steers being made into more desirable beef by receiving a limited quantity of supplementary feed while running on grass, the Kansas Agricultural Experiment Station has chosen a part of this project which is of paramount importance to the livestock industry.

Three groups of mature range steers were used in the first test conducted in this part of the experiment. These steers were representative animals selected from a group of over five hundred Texas steers of the same

age and quality and that had been grazed on the Aye ranch southeast of Manhattan.

Group I, consisted of eight head that were grazed on Kansas bluestem from April 19, and slaughtered off grass as follows: Two head, August 6; three head, September 2; and three head, September 30.

Group II, consisted of six head that were grazed on Kansas bluestem from April 19, to August 6. On and after this date corn was fed on grass. Then they were slaughtered as follows: Three head, September 2 and three head, September 30.

Group III, was the same as Group II, except that cottonseed cake was fed on grass instead of corn.

Due to the severe drouth in northern Kansas this summer, conditions were not so favorable as desired. Pastures were short and the steers did not gain so rapidly as would be the case in average years.

In an experiment of this kind, the greatest care and accuracy must be used at all times and more especially at slaughtering time. Not only must all parts be identified, but since the factors which are being studied such as color, texture, etc., change very rapidly under varying conditions, the temperature must be kept down in the coolers, loss by evaporation must be guarded against, and chemical changes by enzyme action must be prevented.

Color determinations are made from three cuts of the carcass—round, rib, and forearm, as follows: The first after the carcass has hung in the cooler for 120 hours after slaughter; the second, 30 minutes after the carcass is first cut; the third, 3 hours after it has been cut; and the fourth, 24 hours after it has been cut. Color determinations are made by a special machine put out by the United States Department of Agriculture. This machine consists of colored discs mounted on an electric motor. There are four colors used on the discs: Red, black, white, and yellow red. The discs may be adjusted at any desired color values, and are then calibrated and the readings recorded. When the motor is started there is a blending of colors which when properly adjusted will be the exact shade of color or the same

color value as is in the meat. This method is very satisfactory because it is a measure, which when properly taken, may be used as a comparison at the various stations cooperating in the experiments.

The Department of Chemistry of the college is making chemical tests of samples of the rib, round, and forearm after the carcasses have hung in the coolers for 120 hours. The water, protein, and fat content of the lean muscle is being determined along with the nature of the coloring matter of the meat. Determinations of color, tenderness, and palatability after cooking are being made by the Department of Home Economics of the forearms, round steaks, and rib roasts of each animal. The pieces of meat which are used in the cooking tests correspond to the pieces used in determining the color of the raw meat.

Because of the enormous amount of data which must be collected and due to the fact that the experiment must be repeated several times before definite conclusions can be drawn, it will be several years before the results of the experiment can be definitely stated. Even then changing conditions will cause some variation as compared to actual practice. However, this first test is a step toward securing definite information in regard to feed and its influence on color and palatability of meat.

S. P. Lyle, Agr. Engrg. '21, by a recent promotion has become head of the Department of Agronomy, University of Georgia, Athens. Mr. Lyle has made an exceptionally strong showing both in engineering and in agronomic lines since his graduation from K. S. A. C.

R. F. Copple, '21, has been transferred from the Forest Service of the United States Department of Agriculture, to the Branch of Research. His winter headquarters is Roosevelt, and his summer headquarters is Flagstaff, New Mex. He is engaged primarily in the study of erosion in relation to the Roosevelt dam project. He, Mrs. Copple, and the three-year-old son recently spent a 15-day vacation in Kansas.

Marketing Poultry and Eggs

Lonnie J. Simmons, '28

Automobiles and good roads have helped to revolutionize the poultry industry. With these conveniences eggs are not held on the farm several weeks to deteriorate in quality and value but are taken to market two or three times each week. By use of auto-trucks poultry packers also gather eggs and poultry from country stores at frequent intervals and upon arrival at concentration or shipping points the eggs are placed in cooling rooms and the live poultry in sanitary fattening batteries. This practice has a marked influence in preserving the quality and health-producing factors of both poultry and eggs.

Poultry dealers as a rule are well posted on the demands of the markets and the consuming public. Producers will find it to their interest to get acquainted with buyers and find out how they can improve their methods to make them more nearly comply with market demands. For example, everyone is quite familiar with the rules relating to the candling of eggs and finds it very profitable to so handle his eggs that very few are candled out. A more recent example, is the matter of grading eggs. There is a spread of from 10 to 15 cents per dozen at this season of the year between the best quality and the lowest quality. Extra firsts, the highest grade, are large, clean, and strictly fresh eggs. Dirties and cracks, the lowest grade, are dirty or cracked or both, not strictly fresh and often small. Now it is usually easy for the producer to make firsts out of most of his eggs by gathering often and storing in a cool place, if his birds lay sufficiently large eggs to grade as extra first. In most cases even Leghorns will lay fairly large eggs, so that usually the grade corresponds to the degree of care.

Similar examples may be found in poultry marketing. For example, sometimes producers either overlook or are not familiar with the fact that hens are divided into two subclasses according to weight—light hens (under four pounds) and heavy hens (over four pounds). Heavy hens usually bring a premium of from 2 to 5 cents per pound.

Even Leghorns can be made to weigh four or more pounds by proper selection of the breeding stock and by feeding properly at all times. It is helpful to feed grain liberally for a few days before marketing.

Producers generally do not watch the market nor make a careful study of changes so that they will know the best time to sell. For example, they should sell light hens in the early spring, the price being 4 to 5 cents more at this time of year. Many people believe that the difference of 10 to 20 cents for each bird would not make it profitable. Certainly it wouldn't pay to sell even fairly good laying hens at this time of year. But with the aid of an expert culler the exceedingly poor layers can be eliminated, thus disposing of the boarders at the highest market price.

Probably owing to recent high prices of eggs, especially winter eggs, most farmers, and specialized poultry keepers, also, have made special effort to raise large numbers of birds each spring in an attempt to have as many pullets as possible for winter egg production. This has placed in their hands large numbers of cockerels of which they must dispose. These are most profitably sold as broilers which should be taken to market at two pounds weight or less. Some people are inclined to feed their birds until they weigh three or four pounds at which time they fall into the springer class. At this weight it is necessary to take from 3 to 5 cents less per pound. However, during this past season most packers did not make any distinction between the two classes (broilers and springers), so there was a blending of price. Whether in future years "young birds" are marketed as one or divided into two classes, poultry keepers will find it more profitable to sell when the weight is two pounds or less, since chicks make their most rapid growth and hence their most economical gains the first 10 to 12 weeks. If one keeps his birds until they weigh three and one-half to four pounds, the price has so declined that in most

(Continued on page 30)

The Relation of the Farm Income to the Rural Standard of Living

G. W. Montgomery, '25

The relation of the farm income to the rural standard of living is difficult to determine. It is possible to view the relationship as a question of cause and effect. Does a large income result in a higher standard of living, or is the desire for a better standard, a motive which results in a larger income? Since income is only one of many factors which influence rural living conditions it is impossible to say that any definite relation always exists between the farm income and the standard of living.

A standard of living may be defined as the economic goods which have become customary and which are considered necessary to conform to the social group to which one belongs. Aside from these material goods, there are many intangible satisfactions and values of life, but since these cannot be measured they do not serve as an accurate index of living conditions. Since the standard of living is used in making comparisons, it must include only those things which are tangible and measurable. However, this does not mean that the expenditures for living purposes are an accurate measure of rural living, because it is difficult to place a monetary value on many of the things which the farmer consumes. By producing part of what he uses, and by the use of his time, the farmer is able to control many of his living conditions. It may be said that a rural standard of living consists of the economic goods which the rural family deems necessary, whether they are produced by labor or purchased with money.

Farm income refers to the total returns received by the farm family, whether from the farm or other investments. The relation of the farm income to the rural standard of living is influenced by the use, as well as the amount of the income. The manner in which the income is utilized may be a reason why rural living conditions have not kept pace with the city standard of living. The farmer may use his income to promote his

economic welfare rather than to advance his standard of living.

In the past perhaps the most common method of using the income has been for the purchase of more land. Too often this results in limiting the standard of living in order to meet the payments on the land. This occurs especially in years of poor crops and low income. In almost any community in Kansas it is possible to find farmers who purchased land when prices were high with the expectation of paying for it from the income. Many of these farmers and their families are now sacrificing the standard of living they desire in order to make payments on their land. If a farmer has agreed to make certain annual payments and his income has declined, curtailing his living expenses is about the only method by which he can meet his obligations. The purchase of land is highly commendable but sacrificing the standard of living to increase investment may not result in obtaining the greatest satisfaction from life.

A second purpose for which the income may be used is for expanding operations and increasing production. When a large part of the income is used for further production, the standard of living may be more or less disregarded. Some farms have a large amount of capital invested in buildings, machinery, and other productive equipment, but have very few modern conveniences in the home. Modern equipment in the fields with few labor-saving devices in the home is evidence that a comparatively low value is placed upon the labor of the housewife.

A third purpose for which the income may be used is for advancing the standard of living. There seems to be a degree of correlation between the farmer's ability to pay for commodities and the amount spent for living purposes. A survey made by the Bureau of Agricultural Economics of the United States

(Continued on page 32)

The Poultry Industry Applies the Results of Poultry Research

(An Interview)

Dr. J. S. Hughes reports that while he was in the East attending poultry association meetings last summer he availed himself of the opportunity of visiting some large poultry plants which are putting into practical use discoveries recently made by some of the leading Agricultural Experiment Stations of the country. One of the largest and most interesting places visited was that of Mr. Paul Smith, of Vineland, N. J.

Until last winter Mr. Smith had followed the practice of all poultrymen, allowing the hens from which he expected to collect hatching eggs to range out of doors in order to secure eggs of high hatchability. Last year he confined his entire flock of 6,000 hens. He put them up in the laying house October 1, and did not permit them to be out during the winter and spring months. During this time he made use of the latest developments in the practice of feeding poultry, which involve the use of alfalfa leaves, yellow corn, and cod-liver oil, for the purpose of providing an abundance of the vitamins needed for egg production. He also used in the front of his house Cell-O-Glass, so as to make the best possible use of the ultra-violet light. This Cell-O-Glass is material which transmits about 50 percent of the ultra-violet light, while the ordinary window glass shuts out practically all of these healthgiving rays.

Mr. Smith found with his large number of hens the same results which had been obtained by the Kansas Agricultural Experiment Station in small experimental pens. In the entire lot of 85,000 eggs which he incubated this spring, he obtained an 82 percent hatch, which is the best he had ever obtained and far above the average of the ordinary poultryman. Encouraged by these results, Mr. Smith decided to carry the experiment farther and this spring and summer he raised a large number of his pullets in confinement, not allowing them to be on the ground at all. This was for the purpose of

preventing coccidiosis and worms which are so apt to result when young chicks are allowed to run on the ground that has previously been used for poultry. His pullets in confinement developed just as well as those which were allowed outdoor grounds.

As a result of this year's work, Mr. Smith is convinced that it is much better to raise his poultry in confinement than to attempt to allow them to run out under the conditions which he has, that is, where he is attempting to raise several thousand birds on six acres of ground. He has completed plans and expects to start construction at once of an entire new poultry plant. The brooder house in the plant will be a house 340 feet long and 20 feet deep, with a 10-foot cement run along the front. The house will be divided into 10-foot sections, each of which will be large enough to accommodate 500 chicks. Each of these sections will be 10 feet wide by 20 feet deep with a cement slab 10 feet by 10 feet in front for a sun-porch. The entire house will be heated from a central hot-water heating system.

When six weeks of age the cockerels will be removed from the brooder house. The pullets will be confined in the brooder house until they are moved to the laying house.

Mr. Smith is going to discard all of his old shed-roof laying houses and start construction at once of a laying house which is to be 120 by 60 feet and four stories high. He is convinced a house of this type, entirely new in the poultry industry, will be a very great saver in time and energy in caring for the 10,000 hens which he expects to keep in it. The central 20 feet of each floor will be given over to elevators and feed rooms, so that on each floor he will have two rooms 50 by 60 feet.

In the construction of the house he is going to leave the walls practically as nearly open as possible with provisions to close them

(Continued on page 26)

Saving Native Pasture

A. W. Benson, '28

Each summer the farmers of Kansas face the possibility of their pastures failing to support their livestock. In many places this problem is becoming more serious each year. Each season there are less of the valuable grasses and more of the weeds appearing in what used to be good grass land pastures. Data collected by the Kansas Agricultural Experiment Station show that in 1910 the average area of land required per steer was 3.8 acres, and in 1914, 6.5 acres. Now the average requirement per steer for the state is 8 acres. This large increase in pasture requirements is due to over stocking and premature grazing. These attempts to increase the beef production per acre have actually cut the original pasturage almost 50 percent.

But this decrease in grass production is only a part of the loss due to overpasturing. The killing out of the grass plants always results in erosion of the fertile surface soil by both wind and water. The washing out of ditches and gulleys is usually very noticeable, but the most damaging effect is not so noticeable. In a field that has been closely pastured, each time there is a heavy rain considerable surface soil is lost through sheet erosion. The first two or three inches of soil is, of course, the best of the land, and it is very important that its loss should be prevented.

The most important question on this subject today is, can these old pastures be improved or should they be plowed up and sown to cultivated grasses? In most cases they can with a little care be greatly improved, and, besides this, a large acreage of the pasture land of the state is not suitable for growing cultivated grasses. Thus to a large extent improvement of native pastures is the only practicable solution of the problem.

The Agricultural Experiment Station has worked out a system of rotation and deferred pasturing that has greatly improved the lands upon which it has been tried. This system requires the dividing of the pasture into three plots by fencing. About the same

number of stock are pastured as the total area would normally support, but the plots are pastured in rotation. This system eliminates early and late pasturing of the same piece of ground every year.

The plots are pastured in the following order: First year, plot No. 1 is grazed early in the spring; No. 2 is grazed later; and No. 3 is not grazed until it has set seed, after which it is pastured heavily so that the seed will be well tramped into the ground. The second year No. 2 is grazed first in the spring and No. 1, second. This gives plot No. 1 a chance to recover from the early pasturing of the year before. No. 3 is again protected until after the setting of the seed and then pastured moderately. The third year, plot No. 1 is again grazed first; No. 3 is second; and No. 2 is left until seed sets and then pastured heavily. The fourth year plot No. 1 is grazed first in the spring; No. 1, second; and No. 2, third. The fifth year No. 3 is grazed first; No. 2, second; and No. 1, third, allowing seed to set. The sixth year, No. 2 is first; No. 3, second; and No. 1, third. The following table shows the rotation in a more concise form:

Year	When grazed		
	First	Second	Third
First	1	2	3
Second	2	1	3
Third	1	3	2
Fourth	3	1	2
Fifth	3	2	1
Sixth	2	3	1

To keep the pasture in the best condition and secure the largest permanent productions this rotation should be carried on continuously. This system not only brings a pasture back into productiveness but it also allows the owner to pasture the usual number of animals while this work is being carried on. If the land were plowed and seeded to tame grasses the stock would have to be kept off for at least one year. By following this plan of rotation and deferred pasturing the different parts of the pasture will be given both an equal chance to reseed and protection against overgrazing. If any part of the pasture appears to be in poorer condition

(Continued on page 26')

Winter Burning Solves the Chinch Bug Problem

J. W. McColloch, '12

Chinch bug control is a real problem with the farmers of Kansas this fall. During the past season, this insect reduced the wheat yield 25 to 50 percent in many counties, and caused serious losses in the corn and sorghum fields. In retaliation the farmers in many of these counties will systematically burn over all clump-forming grasses along roadsides, fence rows, waste areas, and other places where there is a heavy covering of grass.

The destruction of chinch bugs by burning over the cover in which they have taken refuge for the winter is one of the earliest recommended control measures. This recommendation, however, was based on general observations rather than on definite experimental tests as to its efficiency. It was a common observation of the early settlers in Kansas that the chinch bug was never a problem in years when there had been extensive prairie fires the preceding fall. About 1884, C. L. Marlatt, then an entomologist of the Kansas Agricultural Experiment Station, made a study of the habits of the chinch bug and found that the adults selected the native clumpforming grasses for hibernation. He advocated the burning over of these grasses during December and January as a control measure. The work with the chinch bug fungus came into prominence shortly after this, and all other control measures were neglected.

The failure of the chinch bug fungus and the increasing importance of the chinch bug as a crop pest emphasized the need for effective control measures. With the outbreak which began in 1908, the Department of Entomology started an exhaustive study of the life economy of the chinch bug. Careful studies on hibernation confirmed the observations of Marlatt and brought out the need of a thorough investigation on the efficiency of burning as a control measure.

An area of 25 square miles in the northern part of Sumner county was selected in

the fall of 1910 for conducting an experiment on the value of cooperative burning for chinch bug control. This area was chosen because the bugs had caused serious damage to crops and were abundant in the grasses. The farmers were willing to cooperate, and it represented a typical farming area in the wheat belt.

Preliminary surveys were made of all grass land, and maps were prepared showing the areas where the bugs were present in sufficient numbers to warrant burning. These surveys showed that there was an average of about one thousand bugs in every clump of bunch grass and that about seven million bugs were in hibernation in every mile of roadside. During the months of November and December, most of the area marked for burning was burned over. Counts were made of the number of bugs present in each area before and after burning, and subsequent counts were made throughout the winter. These counts showed that an average of 738 bugs out of every 1,000 present when the area was burned, were destroyed and the mortality was raised to 984 per thousand by spring, due to the exposure of the surviving bugs to the climatic conditions of winter.

The practical value of the winter destruction of 98 percent of the hibernating bugs was reflected in the number of bugs present in the crops and in the crop yields. Surveys made during the summer showed that the bugs were from 6 to 20 times more numerous in the fields outside the burned area than they were in the burned area. The acre yield of wheat was 2.1 bushels greater where burning was practiced, and there was no injury to corn at harvest time. Outside the burned area, much of the wheat was shriveled and in some corn fields as high as 40 rows of corn were destroyed by the bugs migrating into them from the wheat fields.

The success of this preliminary experi-

(Continued on page 32)

The Rural Foreign Community

Merville Larson, '27

The rural foreign community in America has come to the parting of the ways: It must succeed or fail; there is no standing still. It can remain strictly foreign and go down; or it can become Americanized and be a progressive center. Since there are so many such communities in the Middle West it is well to stop a moment that we may consider such a social group, its problems, and some suggested solutions.

"K" is a typical community of the type under consideration. It is located in a very fertile valley of this section of the country and was settled in 1879 by a group of Danish Lutherans. Seven years later a railroad went through "V," some distance south, thus bringing the shipping center nearer "K" but still leaving it a stranded inland population. In 1894 there was a split in the church through which close relatives and neighbors became enemies. Then, owing to the typical Western district organization of schools, the group was split in two geographically, and this further contributed to the ill feeling. As a consequence of these two splits the social life of the settlement was rent asunder, each group segregating itself in very closed social circles. It was not until 1911 that any effort was made to bring the community together. As a result of much effort a recreation hall was built, but chiefly by the Lutheran group. In 1916 a further factor entered the community serving to unite it in one way and split it in another. This was a new railroad, which missed the old town by about a half-mile.

With this historical background this territory will be considered from six points of view: Economic, social, educational, recreational, religious, and cultural. Each will further be subdivided into present conditions and suggested remedies.

Economically this area is stagnant, if not even on the retrograde. For eight years it has experienced partial or total crop failures, on top of wartime deflation in the livestock industry, which is the chief occupation. A minor factor was the bursting of the boom created by the coming of the railroad. Fortunately for the people they have been par-

tially sold to the idea of diversified farming, but as for scientific farming and cooperative effort they are still in the infant stage. The fact that it was an old established center, countenancing very few intruders and permitting but few to migrate, has kept it from having any considerable land price inflation with which to cope. Two elevators, two general stores, a blacksmith shop, a barber shop, a bank, a telephone office, and a cream station comprise the business enterprises.

Together with economic inactivity there is practically no social life of a constructive kind. During the winter one or two plays are produced, but the chief source of entertainment is the dance. Closely connected with this phase is the recreational activity and it will not be amiss to discuss the two together. For the women there is the Ladies' Aid but, like too many of its kind, it is merely a gabfest, and furthermore, it is limited to the Lutheran women. Athletics play a considerable part spasmodically and at present there seems to be a revival in this field. Among the boys and girls the 4-H club is very active. A few of the men belong to fraternal organizations, but at other places.

Educationally this place is dead, in spite of a so-called consolidation in 1918. It failed of its purpose because the area consolidated was too small. The present teachers are serving their fifth terms and have done nothing toward professional advancement in that time. Family politics keep them in their positions.

As was noted in the historical background there was a decided split in the church, which has by no means healed though there are indications that the people are becoming more amicable. The young people are coming together for social affairs and are beginning to come together in the Lutheran Sunday School which is now being conducted in the English language though some of the church services are still conducted in the Danish. The Lutheran church has managed to maintain a resident minister most of the time but the other church has been unable to do so. As a consequence many of the people have joined

churches in neighboring towns or have stayed away altogether rather than go back to the original church.

In view of the foregoing circumstances it is impossible to conceive that cultural conditions could be at a very high level. Lyceum courses were formerly supported but they have been almost entirely given up.

This community is foreign, closely inter-related (the greatest curse to its progress), at the crossroads of success and failure. What can be done to keep such a place from becoming a sleeping potion to its inhabitants? What can be done to guide it up the road of progress?

The present unsuccessful store must be eliminated through failure or merger and one store remain, either a cooperative institution or continued under the present management. The mill-owned elevator should be bought by the cooperative association which should also function as a livestock shipping association and a milk association. Less grain and more dairy cows should help the farmers back to economic success.

Reorganization of the social conditions constitute the major problem. Inter-relationship and the matronly matchmakers are barriers not to be lightly considered. Perhaps the first may be held accountable for the physical and mental deterioration that is becoming quite apparent. Hence, the only solution, though drastic it may seem, is to encourage the removal of many of the young people to other places and the introduction of new stock. Of course, the automobile is serving to establish some outside contacts. A real leader in athletics and dramatics would be able to make the community snap out of its social and recreational lethargy. Suggestions in this line are basketball, gymnastics, plays, pageants, and a social welfare club.

Certainly the educational failure indicated by the fact that only six from the community have completed college in the past decade shows that a reorganization in this field is necessary. New teachers, professionally trained, alert, and with a vision for the future are needed. While the unit is too small for a successful high school, the district should be made responsible for every

eighth-grade graduate going on to high school. Inspiration in this field must be given by the college graduates who have gone back into the settlement. Each college graduate should be of service to his neighborhood in this way.

Reorganization in religious circles seems to be approaching very slowly, though nothing can be effectively accomplished until the old hide-bound dissenters are eliminated. When the two groups do merge it will be possible to maintain a resident minister who can be of real service to the territory. Cultural improvements will come only after these other problems have been solved.

This community and its problems are common to hundreds of others in the Middle West, differing only in minor details or in degree and intensity, so that suggestions made are widely applicable. Nor are any of the suggestions beyond the realm of possibility if there is a determined effort by local leaders to save such rural communities from failure. Only from within the group itself can the problems be solved, so it is up to the few potential leaders, whether they be agricultural college graduates, short course men, or residents with a vision, to lead the people out of the darkness. The county agricultural agent with the 4-H club has much plastic clay which he can mould into leaders. A school principal with a vision could promote a parent teachers' association, a dramatic club, glee club, a social service club, or any one of a dozen others that would awake the people from their lethargy. The agricultural college graduates and short course men must by precept and example raise the efficiency standard of agricultural production.

W. H. von Trebra, '24, formerly assistant superintendent of the Colby Branch Experiment Station, is now county agricultural agent in Rice county, with headquarters at Lyons.

Karl S. Quisenberry, '21, for the last five years assistant plant breeder in the West Virginia Agricultural Experiment Station has accepted the position of assistant in cereal investigations in the United States Department of Agriculture.

The Home Orchard Was an Asset on Kansas Farms

John H. Shirkey, '26

When the early settlers drove into Kansas to establish homes, they knew that to be a complete home each farmstead should have in connection with it an orchard. So orchards were planted. The success or failure of these early ventures in horticulture are now "Experiences."

Pleasant memories come to the children of these old men who planted the orchards, each time they visit the scenes of their apple eating, cider drinking holidays and always with such remembrances comes a wonder and a desire to know about the lack of home orchards in universal evidence today.

The old orchards are dead throughout most counties of Kansas, although the more adaptable and resistant varieties have left with us some struggling representatives. It was during the years from 1910 to 1915 that nearly all the trees in farm orchards died. However, in spite of the severe attacks of drouth, blister canker, apple scab, blotch, and numerous insects, a few of the old veterans remain.

Conditions have changed so much from what they were when the early orchards were producing, that people can hardly comprehend the changes in practices which must follow. Many attempts were made to replace dead or dying trees with young trees. These small trees, often bought from unreliable dealers or of poor quality, seldom survived the diseases, the insects, and the lack of care needed by a young tree isolated in a group of older established trees. Success never crowned such efforts.

Though these people loved their orchards, only a few had sufficient knowledge and the will to apply it to deserve the title of "amateur horticulturist." Many of the varieties planted were so susceptible to diseases or otherwise ill adapted that most of the old orchards have been abandoned.

New orchards have not been established to take the place of the beloved old fruit

gardens of twenty years ago, and the fear is often expressed that Kansas farm children are growing to maturity without the amount of fruit their diet should contain and without their parents' and grandparents' love of good fruit. Hospitality languishes and the simple home pleasures are abandoned. The old orchards perished because of a combination of destructive enemies and a lack of knowledge regarding the care required by a mature orchard. New England or Ohio methods would not suffice. But problems of orcharding relative to the management of the soil, spraying, and pruning have now been sufficiently mastered that the Kansas home orchard could again be brought back by the coming generation, had they the will to do so. Scattered over the state are found demonstration and amateur orchards now in the height of their glory and living illustrations of what can be done with fruit in Kansas.

But few children of twenty years ago did not know the common varieties at sight and better by taste. There are many today who know fruit only by the few samples secured in the local grocery store or from a car shipped into a community by local effort. Fruit is a luxury food for which few persons will confess a dislike. The better the fruit the more pleasing is its effect. The satisfaction derived from having good fruit is always shown by the man who is fortunate enough to have some. Hired men prefer to work where there is fruit for enjoyment. Sons and daughters find innumerable occasions for supplying entertainment from the apple cave or cider barrel. Above all, is the beauty of the orchard, the loveliest spot on the farm.

A suitable orchard site may not be found near every farm home but almost every farm includes one spot where a few fruit trees may be successfully raised. Proper selection of the site, careful choosing of kinds and va-

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Want to Go Into Farming?

Dan Casement

A series of vocational articles is being run in *The American Boy* magazine. They are interviews from men of large vision who know many jobs but can speak with authority on some one. Dan Casement, whose name and fame are known by every student of agriculture in K. S. A. C., speaks in the November issue from the advance reprint of which we take the following:

"If you like outdoor life and like to be your own boss, perhaps farming is your job. But don't plunge into it blindly. If you dislike either hard physical work or hard mental work you're not cut out for a farmer or a rancher, no matter how much you enjoy blue sky and the smell of freshly plowed fields and the feeling that you don't have to take another man's orders.

"If you're looking for an easy life don't pick farming. Farming is a fighter's job. Successful farming or ranching can't be a matter of blindly following old paths, of stolidly or lazily accepting what comes. A farmer's got to be a scrapper; the right kind of scrapper; a keen observer, a good planner, a hard worker, a man of vision, a man who can't quit!

"You'll be tackling quite a bit if you tackle farming or ranching. Yet if you'll use both your hands and your head I think you can make a go of it. But you've a long pull ahead of you. Be sure before you start that you're picking *your* job. Do your own deciding, and take time enough to investigate thoroughly both yourself and the work you think you'd like to do."

Mr. Casement gives three reasons why a young man should go to college:

1. "If you go to an agricultural college, you'll accumulate much useful, up-to-date knowledge—valuable to any young farmer, but especially valuable to a town-bred boy whose farming experience has been limited to working on farms in vacations.

2. "If you go to a good agricultural college, you're likely to meet some big men, men who will help develop vision in you. Some of these men may be on your college faculty. Others may visit the college. And

you may meet still others through winning special honors. For instance, if you go to Chicago on a stock-judging team, some older man may invite you to lunch at the Saddle and Sirloin Club and introduce you to a big ranch owner, or a prominent Chicago packer, or an Argentine cattle buyer. Such men give you glimpses of unusual opportunities, drop ideas that spur you on.

"Sometimes, one of them can offer a boy an interesting chance. A promising cub I know, who had just completed his college course, got a chance to go down to Argentina with a bunch of cattle. The cub went, keen for the adventure and thinking he'd learn enough to pay him for the time he'd invest. He did better. He worked on a ranch down there for a year or so; came back home with a thousand dollars in his pockets and more than a thousand dollars' worth of knowledge about Argentine methods in his head.

"Of course, you won't be offered any such chance unless you make yourself good enough so that older men size you up as worth while.

3. "The third reason is a reason my father gave me when I was a cub. 'As a farmer,' he told me, 'you'll lead a more or less isolated life. Go to college and develop resources within yourself. If you enjoy reading and thinking, you're not likely to be lonely and you're not likely to get into ruts.'"

Vernon E. Paine, '22, is teaching agriculture in the Belleville High School.

Theodore T. Swenson, '20, is in the Market News Service, United States Department of Agriculture. His address is 27 Livestock Exchange Bldg., Buffalo, N. Y.

Emory N. Watkins, '25, is salesman and feed specialist for the Grain Belt Mills Co., St. Joseph, Mo. In K. S. A. C., Emory was noted for his pep and his ability to cover the ground. He certainly will make a wide awake feed salesman. He visits K. S. A. C. occasionally, but his home address is 2401 Charles St., St. Joseph, Mo.

The Status of the Greenhouse Industry in Kansas

Fred Daniels, '27

One of the most remarkable developments of this generation is the rapid growth and expansion of the florist business. Twenty or thirty years ago the florist business was just barely existing. Of course, good stock was grown but because the people had failed to see the need of the business, there was very little chance of profit. Today all this has changed and the florist finds his business is a profession with large and general public recognition. The florist is one of the leading business men of the community; he has a beautiful home; he takes an interest in the affairs of the community and anything that stands for real progress.

To some it may appear that floriculture has already reached the high-water mark, but from all indications it has just started to climb the first few rounds of an endless ladder. Beyond doubt, future years will find an ever increasing demand for flowers. Yesterday flowers were considered a luxury, but today they are considered a necessity.

The United States leads in prosperity and will continue to lead. But one of the marks of progress is the demand for better and more beautiful things. People are willing and anxious, for example, to pay more and more for the service of the florist. In no other part of the world is there a better chance to develop this industry than here. Not every one has yet learned to "say it with flowers," but that spirit is spreading rapidly.

The introduction of good business principles coupled with an abundance of periodical literature has been of untold benefit to the floriculturist. Last, but not least, the application of technical knowledge, together with an ever increasing alertness to occupy the field and to expand it to its limits, has all given the floriculture business greater power and dignity upon which to continue to hold for the future.

There are some two hundred and fifty

commercial greenhouses in Kansas which devote their space and time to the growing of flowers. Of that number, one hundred and fifty are members of the Kansas State Florists' Association. In 1900 there were 700,000 square feet of flowers and vegetables under glass in Kansas. By 1910 this area had increased 85 per cent or to 1,300,000 square feet, and in 1920 an increase of more than 40 percent gave a total of nearly 2,000,000 square feet under glass. This is equivalent to the whole space under glass in Canada and yet Kansas ranks but twenty-fifth in area of glass among the states.

Judging from the figures from other states, Kansas produces about \$4,000,000 worth of flowers annually. The florists' productions in Kansas for 1925 equalled two-thirds of the total value of all the horticultural products and one thirty-third of the total value of the livestock raised.

Previous to 1921 the Kansas State Agricultural College offered courses in ornamental horticulture and floriculture and carried on some experimental work in allied lines including forestry and greenhouse operations, but since then the college officials have been pushing the floricultural phase because they deem its service of a very practical nature. Already many of the experiments have resulted in new knowledge of very practical significance to the florists of the state.

An outside experiment was conducted during the past summer by the Department of Horticulture on a two-acre tract laid out to test for productivity, quality, and earliness of certain florist crops under various conditions of planting, irrigation, and mulching, and was viewed with interest by many. This outside work will be expanded as needs for it are demanded. An older experiment with concrete greenhouse benches combined with experiments on sterilization of the soil in greenhouse beds has attracted the attention

(Continued on page 28)

The Proper Location of Wheat in the Cropping System

M. C. Axelton, '28

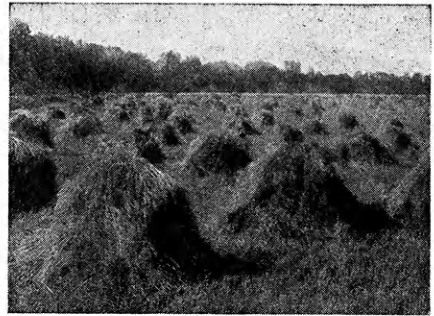
During the last sixteen years the Agricultural Experiment Station has been comparing the effects of various cropping systems on the yield of wheat. In a sixteen-year rotation alfalfa is grown four years followed by a three-year rotation of corn one year and wheat two years, repeated for twelve years. The land is then again seeded to alfalfa to be maintained for another four years.

The average yield of wheat grown after wheat in this sixteen-year rotation, including alfalfa, has been 22.75 bushels per acre. The average yield of wheat grown after corn in this same rotation has been only 16.95 bushels per acre. The increase of 5.8 bushels per acre seems to be due to the fact that the wheat seedbed can be prepared much better when preceded by wheat or other small grain than when preceded by corn. Wheat gives a higher average yield when grown after wheat than it does when grown after corn.

In another rotation, a three-year rotation without a legume, consisting of corn two years, wheat one year repeated indefinitely, the average yield of wheat has been only 14.36 bushels per acre. This yield is about one bushel per acre less than the average yield of wheat in another series of plots where wheat is grown continually. This shows that wheat grown in the wrong kind of a rotation may even give smaller yields than wheat grown continually. The average yield of wheat, when grown continually, has been 15.27 bushels per acre.

In the sixteen-year rotation the increase in yields of wheat grown after wheat is partly due to the proper use of a legume in the rotation. Another reason for higher yields of wheat grown after wheat is that usually the seedbed is better prepared. There is more time to prepare the seedbed for wheat when the previous crop is harvested in July, and early preparation conserves soil moisture and nitrates, both of which are present in larger amounts when the soil is plowed soon

after the wheat is harvested, because there is no crop or weeds on the land to remove them as they are formed. When corn is grown, it takes moisture from the soil until a short time before the wheat is planted. This may leave the soil in a dry condition at the time of planting wheat and during a dry fall may cause the wheat to start slowly and thus go into winter in poor condition. These reasons



largely account for the fact that the average yield of wheat is higher when grown after wheat than when grown after corn.

The results of these tests to date emphasize the importance of the proper use of a legume in the rotation and of adjusting the cropping system in such a way that wheat will be seeded on land where it will have an opportunity for making a good fall growth. Wheat seeded after summer crops such as corn, soybeans, or cowpeas is at considerable disadvantage because the wheat follows so soon after the other crop is removed. Wheat following a small grain crop permits early preparation of the seedbed, gives the plants a good start in the fall, promotes an early spring growth, and secures more satisfactory yields.

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GRADUATION, THEN WHAT?

Upon graduating, a student in agriculture seeks a method of utilizing his education and training to the best advantage. He goes out as an educated man to face the people of his community. He is sure to be tested, as they expect something unusual of him. Will he equal their expectations or disappoint them? If he disappoints them, they discredit agricultural education.

No matter what line of work he may pursue, the college graduate will face public observation and criticism. People will watch the book agriculturist to see if his educated head saves his agricultural back, and to see if the cockleburs grow as well for him as they do for his more ordinary neighbor. The educated man is constantly being compared with others to determine if his education really pays a dividend.

There are people of various attitudes. Some believe in agricultural education, some are very doubtful as to whether it pays, and others have little faith in book learning.

The man who believes in agricultural education, upon meeting some one with this education, is going to expect him to know some things that he, himself, does not know after many years of practical experience. Some of his questions may be as follows:

"Can you tell what is killing my cherry trees?" "What is the best way to kill bindweed?" The life history of insects and plant diseases is something of a mystery to the average farmer, and he often has questions to ask concerning them. He has dozens of problems and he expects the agricultural graduate to give a ready answer to them. The inquirer is disappointed if the question cannot be answered with some wisdom.

Another person may take the college man to be an upstart who thinks he knows everything. This type of man is determined that the college man shall not tell him anything. This man is self-centered but this attitude may be overcome by getting his attention directed upon some object of discussion, after which his mind becomes more receptive.

There are people who would have you believe that experience is not merely the best teacher but the only teacher. No professor can dictate to them, because they say, "If the professors would get out on the farm they would learn a few things." Books mean little to them, because, "paper has never refused ink." It would make a wreck out of a man to believe everything his critics say.

The college graduate has a wide range of knowledge, but that is no reason for his lying down mentally and learning no more. He

can learn some good idea or some handy wrinkle from every one he meets even though that person appears to know very little. There is too much to know and too many new facts and new methods arising for a college graduate to allow his mind to become set because of the few things he may know. People will look toward him as a leader, but they will not long look toward a stagnant mind for leadership.

Every individual agricultural graduate has some big problems to face. In meeting them will he capitalize his education? Will his ideas actually top the market?—R. W. M., '27.

ALPHA ZETA

Alpha Zeta is an honorary agricultural fraternity which recognizes leadership and high scholarship among undergraduates working for a degree in agriculture. In order for a man to be elected to this organization he must have completed at least three semesters of college work and his grades must place him in the upper two-fifths of the class. This generally means that a man must have a point average of not less than 1.5 to be on the eligibility list.

Grades, however, are only one of the things considered in electing men to Alpha Zeta. Along with scholarship a man must be prominent in one or more student activities. The judging teams, the Ag Fair, The Kansas Agricultural Student, are all worthwhile activities within the Division. Athletics, debate, music, dramatics, and other honors outside of the division are also worthwhile stepping stones to Alpha Zeta.

Every agricultural student should try his best to become eligible to Alpha Zeta. In the fraternity are some of the best teachers in the college and a very high percent of successful agricultural leaders are Alpha Zeta men. The fraternity seeks to place agriculture on a higher plane by holding up high standards for its members to achieve. It seeks to inspire its members to promote agricultural development and proper relations between the farming business and other industries.

A large amount of knowledge in many fields is necessary to be successful in agricul-

ture. The fraternity believes that students of agriculture who are making an outstanding success in college life will become capable leaders in agriculture. Only the well-rounded agricultural student is eligible to Alpha Zeta.

THE DIVISIONAL HONOR ROLL

We are glad to present in this issue the honor roll of the Division of Agriculture for the college year 1925-26. The attainments of the students listed thereon are worthy of commendation and public recognition. Congratulations are hereby extended by the administrative officers of the division and by THE KANSAS AGRICULTURAL STUDENT.

Our readers should understand that the honor roll of our division is based almost entirely on points. Sixty points for the two regular semesters of the college year win a place on the honor roll. If the student carries as many as 15 credit hours each semester, 50 points make the honor roll. Rank is determined by the number of points earned and not by scholarship average. No student may be on the year's honor roll who has a delinquency against him for either semester.

These standards are high, but not so high that they can be reached only by a few. The doors are wide open. Even the average student who is not seriously handicapped, and who is faithful to every college duty, takes his job seriously, and works conscientiously may earn a place on this honor roll. There is just one place where honors are limited and that is the "High Honor Roll." The three students in each class of the division who make the highest number of points are accorded the special distinction of high honors for the division.

TO OUR READERS

We hope you will each find a few articles of real interest and value to you in this issue and several others of more than passing interest. Don't lay your copy of the magazine aside until you have looked over the ads it contains. Our advertisers are among our boosters and we want you to boost for them.

May we ask especially of our college stu-

dent readers that you look over the inside cover pages and remember our local advertisers as you have opportunity in the near future.

OUR COVER PAGE

By the courtesy of F. E. Colburn, college photographer, we present on the cover page of this issue, Manora's Fairy Lad, head of the college Jersey herd. This bull has been a highly-prized inhabitant of the college dairy barn for three years, a half interest in him having been purchased from Longview Farm, Kansas City, Mo., three years ago.

The sire of Manora's Fairy Lad is Flora's Queen's Raleigh, one of the outstanding sires



MANORA'S FAIRY LAD

A recent photograph of the head of this bull is shown on the cover page of this issue. The above picture was taken two and a half years ago, or a few months after "Lad" came to the college herd. In 1920, Manora's Fairy Lad was first-prize junior yearling in the National Dairy Show, Chicago.

of the Jersey breed and one whose offspring are being highly lauded at the present time. The dam of Manora's Fairy Lad is Imp. Eminent's Manora with a record of 454 pounds of butterfat, starting test five and one-half months after calving.

At the present time there are eleven daughters of Manora's Fairy Lad in the college Jersey herd, two of which have just come into milk, making a beginning that is a strong promise of good records. His offspring are of excellent type and high hopes have been placed in him as the upbuilder of the college Jersey herd.

ARE COLLEGE MEN WANTED?

The editorial, "Graduation, Then What?" was written by R. W. McBurney. In our judgment it presents some thoughts worth thinking over and over again. It reminds us of the article, "Are College Men Wanted," by A. W. Armstrong, in the July issue of *The Atlantic Monthly*. Every college student, especially every junior and senior in college, should read Mr. Armstrong's article.

The article deals with "Big Business" and the college graduate; but the relation of Big Business to the college graduate is much the same as that of every business and every profession. The article will help the upper classman to get the right perspective of the world he is about to enter upon leaving college. It will enlarge his capacity for patience and help him to build the right ideals of giving and serving. It should strengthen him spiritually and, in the long run, give him welcomed encouragement.

CAUTION TO POULTRY RAISERS REGARDING GLASS SUBSTITUTES

Cell-O-Glass is a thin sheet of artificial silk reinforced by ordinary screen wire. It is made by treating cellulose, or ordinary cotton, with such certain chemical reagents as will render it soluble. Screen wire is dipped in this soluble material under special conditions, and the product known as Cell-O-Glass is produced. The particular compound used in making this Cell-O-Glass is cellulose acetate.

There is being offered for sale a product made of cellulose nitrate. This product is inferior to Cell-O-Glass in that it deteriorates very rapidly and after it begins to deteriorate doesn't permit the passage of the ultra-violet rays. Poultrymen in securing glass substitutes should be careful to secure material that is durable and permits the passage of ultra-violet light.

A. W. Stover, '24, manager of the Black-foot Greenhouse, Blackfoot, Idaho, visited parents and friends in Manhattan last June. Austin is as enthusiastic over commercial greenhouse work as he was over his college work when a student in K. S. A. C. Carnations are his big seller.

College Notes

HONOR ROLL, 1925-26

One hundred two students in the Division of Agriculture during the college year, 1925-26, received special commendation for outstanding achievements in scholarship. Each of these students carried on regular assignment not less than fifteen credit hours of work each semester (1), had no delinquencies against him throughout the year, and made a total of not less than fifty points on his two assignments, according to the K. S. A. C. point system (2).

The three highest ranking students in each class were given special mention as winners of high honors. The names and home addresses of the group winning "high honors" and the group winning "honors" are given below.

HIGH HONOR ROLL, 1925-26

Seniors	Home P. O.	Credit Hours Passed	Total Points
Walter Wisnicky	Green Bay Wis.	39	114
Gilbert K. Terpening	La Pryor, Tex.	37	92
Karl W. Niemann	Muskogee, Okla.	43	86
Juniors			
T. Russell Reitz	Belle Plaine	35½	90
Carl M. Carlson	Lindsborg	33	80
I. M. Atkins	Manhattan	28	76
Sophomores			
Harold E. Myers	Bancroft	37	100
C. E. Crews	Elk Falls	38	95
E. A. Stephenson	Alton	38	86
Freshmen			
R. C. Hay	Parker	37	103
Albert W. Miller	Montezuma	38	95
Clifford C. Eustace	Wakefield	37	85½

HONOR ROLL, 1925-26

Seniors	Home P. O.	Credit Hours Passed	Total Points
W. H. Atzenweiler	Huron	36	68
Harold J. Brodrick	Osborne	36	84
Merritt P. Brooks	Columbus	38	80
C. E. Dominy	Atwood	29	64
Guy H. Faulconer	El Dorado	33	64
Robert W. Fort	St. John	38	66

1. A student carrying less than 15 credit hours a semester was required to make a total of 60 points to win a place on the honor roll.

2. Passing grades given at K. S. A. C. are, from lowest to highest, P, M, G, and E. Each credit hour with a grade of "M" gives the student one point. Each credit hour with a grade of "G" gives two points, and each credit hour of "E," three points. No student will be graduated unless his total number of points earned at least equals the total number of credit hours required in his curriculum.

W. W. Gunselman	Holton	32	69
Mary E. Halse	Crowley, Col.	34	79
Kenneth W. Halbower	Anthony	33	57
A. A. Haltom	Alden	36	74
F. Floyd Herr	Medicine Lodge	35	52
A. C. Hoffman	Abilene	33	69
Lionel Holm	Vesper	35	74
Fred H. Hull	Portis	34	70
Ralph M. Karns	Ada	35	79
Earl M. Knepp	Clay center	38	57
W. J. Kraus	Hays	34	68
H. L. Lobenstein	Edwards-ville	37	71
G. E. Lyness	Walnut	33	52
C. M. Murphy	Talmage	36	68
K. H. Platt	Manhattan	31½	60
R. B. Ricklefs	Troy	33	67
H. W. Roebke	Clifton	35	50
Harry A. Rust	Washington	38½	60
Sheridan Settler	Council Grove	35	57
John H. Shirkey	Madison	37	66
H. Arlo Stewart	Topeka	40	74
Ward W. Taylor	Smith Center	31	56
Joel C. Wallace	White City	36	58
N. N. Weberg	Salina	35	72

Juniors

B. Lowell Barr	Manhattan, R. R. 3	32	51
T. Lovell Barr	Manhattan, R. R. 3	32	72
C. R. Bradley	Mayetta	34	72
Paul O. Brooks	Horton	34	68
J. P. Caster	Manhattan	32	60
E. I. Chilcott	Manhattan	37	65
R. H. Davis	Effingham	32	69
W. Merlyn Mann	Quinter	38	66
H. L. Murphey	Protection	33	65
Stephen M. Raleigh	Clyde	34	53
George J. Stewart	Manhattan	33	67
Jared F. Taylor	Wichita	37	70
C. W. Thole	Stafford	36	68
J. T. Whetzel	Manhattan	33	57

Sophomores

A. Wallace Benson	Clay Center	32	61½
James L. Blackledge	Sheridan, Wyo.	36	80
Floyd A. Blauer	Stockton	36	66
James B. Brooks	Garrison	36	55
Laurence M. Clausen	Alton	38	58½
R. S. Coberly	Gove	34	74
Robert Elder	Linwood	37	56½
Kermit V. Engle	Abilene	37	60½
H. W. Higbee	Climax	36	58
Philip J. Isaak	East Orange, N. J.	37	79
John H. Kerr	Wichita	35	67
R. N. Lindburg	Osage City	38½	78
Verl E. McAdams	Clyde	36	68½
Oleve M. Manning	Peabody	38	80
Leroy E. Melia	Ford	36	73½
Warren E. Schaulis	Wakefield	36	57
J. P. F. Sellschop	Potchefstroom, S. Africa	35	60
Harvey J. Stewart	Americus	36	62½
Loren F. Ungenheuer	Centerville	36	74
George B. Wagner	Netawaka	36½	60½

Freshmen

Francis E. Carpenter	Wakefield	36	70½
George J. Caspar, Jr.	Alida	37	66½
Carl S. Channon	Ottawa	37	59
Laurence L. Compton	Formoso	37	65
Norman Curtis	Toronto	36	64
Theodore R. Freeman	West Plains, Mo.	37	68½
Ogden W. Greene	Paradise	37	51
F. W. ImMasche	Saffordville	37	79
Oliver G. Lear	Stafford	34½	61

Ralph O. Lewis	Parsons	37	73
E. L. McClelland	Manhattan	38	53½
C. Porter McKinnie	Glen Elder	37	71½
W. L. McMullen	Oberlin	35	82
Arnold A. Mast	Abilene	37	66½
Harold A. Miles	Mutual, Okla.	33	68
Warren D. Moore	Copeland	38	58½
Clarence L. Morrill	Chicago, Ill.	37	76½
Francis J. Raleigh	Clyde	38	73½
Louis P. Reitz	Belle Plaine	37	84½
J. W. Roussin	Brewster	37	63½
S. Roger Stewart	Vermillion	36	58½
J. H. Sutton	Ensign	37	77
O. H. True	Perry	35	60
Alfred K. Webb	Parker	35	54
F. Dale Wilson	Jennings	34	56½

Special

V. R. Oline	Sterling	32	56
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R. C. HAY

Mr. Hay won the Alpha Zeta medal for being high freshman in the Division of Agriculture for the college year 1925-26.

STUDENT POULTRY-JUDGING CONTEST

On Saturday, October 23, 1926, the Department of Poultry Husbandry conducted the second annual student poultry-judging contest. The contest consisted of placing six classes of four hens each. The individuals of each pen were judged and placed on the basis of their actual recorded egg production. In addition there was given a true and false examination which covered the work given in the college course in Farm Poultry Production.

The contest was divided into two divisions, a senior division for those entrants having

had a college course in farm poultry or who were now taking the course in Farm Poultry Production, and a junior division for those entrants who had not had a college course in farm poultry. In the senior division 82 students registered, in the junior division, 8. The possible score of each contestant was 700.

The awards and placings of the winners in each division are as follows:

Senior Division

Contestant	Score	Prize
A. W. Miller	595	\$15
S. Roger Stewart	587	\$10
R. L. Elsea	583	\$5
F. A. Blauer	579	Cockerel
W. C. Pierce	576	Cockerel
Norman Curtis	576	\$3
V. M. Rucker	576	\$2
Oleve M. Manning	572	\$2
K. W. Knechtel	568	\$2
M. K. Fergus	568	\$1
Harold E. Myers	567	\$1
C. S. Channon	564	\$1
E. L. McClelland	562	\$1
J. E. Payne, Jr.	561	\$1
H. L. Murphey	561	\$1
K. D. Lininger	560	\$1
F. W. ImMasche	560	\$1
L. L. Davis	552	\$1
R. F. Brannan	549	\$1
T. H. Gile	549	\$1
Warren D. Moore	545	Sub. to Poul. Tribune
Ralph C. Hay	542	Sub. to Prog. Poultryman
L. M. McClenny	541	Sub. to Prog. Poultryman
Ray M. Mannen	541	Sub. to Prog. Poultryman
J. E. Endieott	538	Sub. to Prog. Poultryman

Junior Division

R. W. O'Hara	587	\$5
E. A. Stephenson	568	\$2.50 and Sub. to Reliable Poul. Jour.
C. E. Crews	544	Cockerel
C. W. Said	534	Cockerel
F. L. Timmons	533	\$1.50 and Sub. to Rhode Island Red Jour.
James J. Yeager	515	\$1 and Sub. to Leghorn World
Fredrick H. Schultis	497	50 cents and Sub. to Plymouth Rock Monthly
Lester Burton	493	50 cents and Sub. to Prog. Poultryman

METHODS OF HARVESTING SWEET CLOVER SEED

The Department of Agricultural Engineering of the Engineering Experiment Station and the Department of Agronomy of the Agricultural Experiment Station have been conducting investigations during the last three years to determine the most efficient method of harvesting sweet clover. A machine was designed in 1924 to beat the sweet clover seed

from the standing plant, the beater revolving with its axis parallel to the line of draft. In 1925 two additional machines were constructed, one operating with beater axle at right angles to line of draft and another built similar to the 1924 machine, but with cleaning attachments. These two machines, a grain binder with pans attached, and a combined harvester-thresher were used on the experimental plots in 1925.

The experimental work during the 1925 season seemed to indicate that the grain binder and the combined harvester-thresher were superior, from the standpoint of harvesting efficiency, to the beating types of machines. The beater machines were satisfactory for fully-matured seed. However, since sweet clover should be harvested before all the seed is fully ripened to the stage of shattering, the grain binder and "combine" seemed to offer the greatest possibilities. A "combine" (see illustration on "contents" page) and a grain binder were again used on the experimental plots in 1926.

Investigations conducted thus far seem to indicate that in order to get the greatest quantity of seed that will germinate, the clover must first be cut and the seed then threshed or beaten from the stems.

INTERCOLLEGIATE DAIRY JUDGES MAKE A GOOD RECORD

Team Places First at Waterloo

With a margin of 27 points, the dairy judging team won over its nearest competitor, Iowa State College, in the annual intercollegiate contest held in connection with the Waterloo Dairy Cattle Congress at Waterloo, Iowa, September 27, 1926.

Loving Cups for College

Three silver loving cups, two medals, and a cane constitute the trophies awarded the team at the dinner and program following the contest. One cup was received for being the highest team in the contest and the other two cups were received for placing first on Holsteins and Jerseys.

Members of the team are Dale Wilson, Jennings; L. M. Clausen, Alton; and E. I. Chilcott, Manhattan.

In the individual and breed placings, members of the Kansas team ranked high.

They were first on Holsteins and first on Jerseys, third on Ayrshires, and fifth on Guernseys.

Dale Wilson was third high-point man among 39 individuals. E. I. Chilcott placed sixth and L. M. Clausen seventh. The three ranked 4, 7, and 11 points, respectively, below the high individuals of the contest. E. I. Chilcott was high on Holsteins.

Place in the Upper Fifty Percent in the National Dairy Exposition

In the intercollegiate contest of the National Dairy Exposition held at Detroit, Mich., October 6, 1926, the same K. S. A. C. dairy judging team named above, placed thirteenth among 27 competing teams, scoring 3,715 points out of a possible 4,800. Dale Wilson of Jennings was high individual on the Kansas team and ranked ninth in the entire contest. South Dakota placed first with a total of 4,012 points.

K. S. A. C. SHEEP WINNINGS IN TWO KANSAS FAIRS, 1926

At the Kansas Free fair, Topeka, there was keen competition offered in every class of sheep, both breeding and fat classes. In spite of this keen competition in each of the various classes, K. S. A. C. carried away a good share of the honors, of which they can be justly proud.

The total winnings consist of nine championships, 31 first, 12 second, and 4 third placings, a record not easily equalled by any competitor unless he has good sheep in the ring. This fact justified the conclusion that K. S. A. C. has a winning flock.

Especially gratifying were the winnings in the Shropshire classes. The winnings of the progeny of "Invincible," the fine Shropshire ram owned by the college, proves conclusively that he is dependable and a consistent breeder. All Shropshire yearling and lamb classes, as well as other groups, were won by the progeny of this ram. A son of his, Kansas 622, was the champion ram at both the Topeka and Hutchinson fairs. Kansas 622 is an outstanding individual, having a wonderful head, a strong back, a deep blocky body, and fitted as only "Tommy" Dean can fit them.

A worthy showing was also made by the

Hampshires. College sheep won the ram and ewe championships for this breed, as well as placing first and second in every class shown. This record made by the Hampshires is unusual for any breed to make whether the show be large or small.

In the Southdowns and Dorsets, the number exhibited and the number of prizes captured compare favorably with those of the Hampshires. Other winnings were, with wether lamb class, yearling wether class, and the

the reputation of the flock. Thomas Dean is to be given praise for his expert care in preparing and in presenting his sheep. "Tommy," as he is known by his friends, is a shepherd equalled by few and surpassed by none in this country.—I. K. Tompkins, '29.

KANSAS HOG PRODUCERS MEET

Hog producers from more than fifty Kansas counties attended the first annual Kansas Hog Producers' Convention, held at



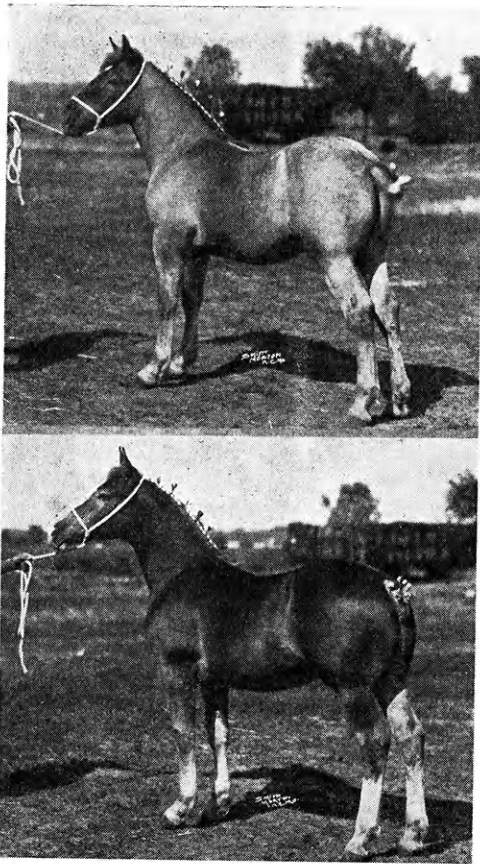
KANSAS 622

Kansas 622 was Champion Shropshire ram in the Kansas Free Fair, Topeka, and the Kansas State Fair, Hutchinson, 1926. He is possibly the finest specimen of the fine progeny of "Invincible," one of the highest class and most dependable and consistent breeders ever found among K. S. A. C. sheep. Kansas 622 was lambed March 16, 1926.

carrying away of the wether championship, all of which were creditable winnings.

Taking into consideration the competition at each of the big fairs and the winnings of each of the four breeds, it is easy to see that K. S. A. C. does have a flock of sheep of no mean importance. Prof. H. E. Reed, in charge of sheep husbandry, is to be given credit for his efforts in selecting and breeding, and in the building and maintaining of

K. S. A. C., Thursday, October 14, 1926. The meeting was sponsored by the Department of Animal Husbandry to discuss problems of outstanding importance in the hog business, including the presentation of the results of recent hog-feeding experiments conducted by the department. Besides Dr. C. W. McCampbell, head of the Department of Animal Husbandry, who discussed the hog-feeding experiments, Pres. F. D. Farrell, Dean L. E.



TWO PROMISING YOUNG BELGIANS Sired
BY COLGODINE

The upper picture shows College Farzella, whose dam, Farzelle, was a daughter of the famous Farceur. College Farzella was grand champion at the Kansas Free Fair, Topeka, 1926.

The lower picture presents Colgodine's Farceur, whose dam is Farceur's Lady. Colgodine's Farceur was first in his class in the Kansas Free Fair, Topeka, and grand champion Belgian stallion in the Kansas State Fair, Hutchinson, 1926.

Call, and Dr. W. E. Grimes of the college faculty had parts on the program.

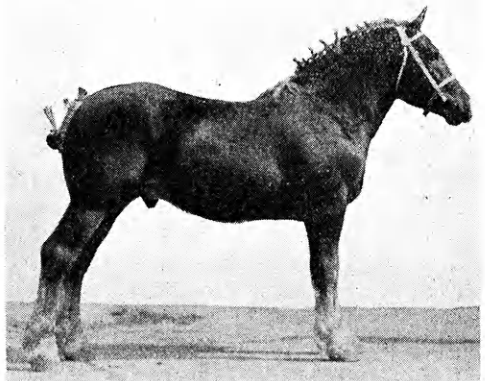
T. W. Morse, editor of the Emporia Times, discussed getting livestock news to farmers. John F. Hepler, county agricultural agent of Washington county, discussed methods of preventing worms in hogs under practical farm conditions. R. F. Cuff, livestock sanitation commissioner for the Kansas City Livestock Exchange and the Kansas City Stock

Yards Company, discussed the meaning and value of tubercular-free areas to hog raisers.

In the feeding tests conducted during the past summer, the results of which were reported at the convention, spring pigs on pasture were being fattened for market. The experiments provided valuable information on (1) the value of tankage as a protein supplement for corn; (2) the relative value of sweet clover and alfalfa pastures; and (3) the relative values of cottonseed meal, linseed oil-meal, and Purina Pig Chow as protein supplements in pig-fattening rations under the conditions of the experiment. Further information may be secured by addressing Agricultural Experiment Station, K. S. A. C., Manhattan, Kansas.

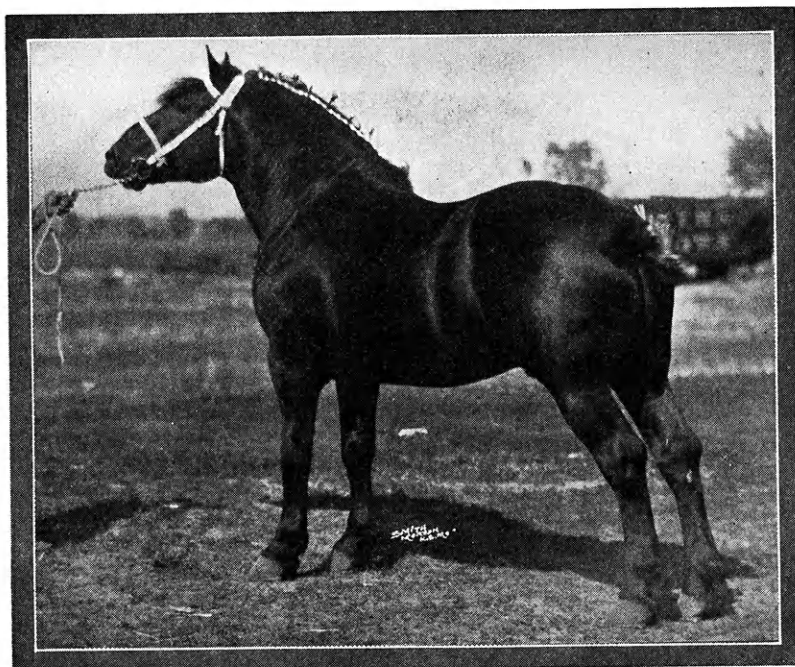
K. W. Phillips, '12, farming near Stockdale, is engaged extensively in cattle feeding.

R. E. Mohler, M. S., '17, dean of McPherson College, worked toward his doctor's degree in the University of Wisconsin last year and attended the Special School for Administrators in Institutions of Higher Education in Chicago University last summer. Last September he returned to his work at McPherson College.



COLGODINE

The above picture shows the likeness of Colgodine, sire of College Farzella and Colgodine's Farceur. The picture was taken early in 1925, almost two years ago. The sire of Colgodine was Colgo 11942, bred by the college and winner of the coveted purple in both Kansas state fairs in 1921. Colgodine was champion stallion at the Kansas State Fair, Hutchinson, in 1924.



CROMWELL EGOT

This purebred Percheron stallion, head of the K. S. A. C. Percheron stud, was grand champion stallion in both the Kansas Free Fair, Topeka, and the Kansas State Fair, Hutchinson, this fall. He was bred by E. L. Humbert and Sons, Corning, Iowa.

Alfalfa Varieties for Kansas

I. Milburn Atkins, '28

Each year there is imported into the United States almost enough foreign alfalfa seed to seed the entire Kansas acreage. In former years there has been a large quantity of this seed introduced into Kansas.

Since Kansas is one of the most important states in the production of alfalfa, the Department of Agronomy of the Agricultural Experiment Station, in cooperation with the United States Department of Agriculture, began an experiment in 1922 to determine the best yielding variety as well as the best adapted variety of alfalfa for Kansas.

Seed of all the known varieties of alfalfa was secured from the United States Department of Agriculture and two one-twentieth acre plots of each variety were planted on the Agronomy Farm at Manhattan in the fall of 1922. Check plots of the Kansas Common

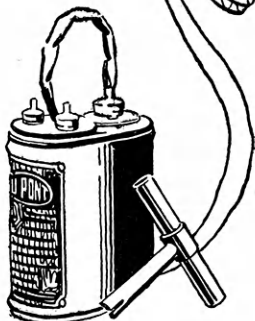
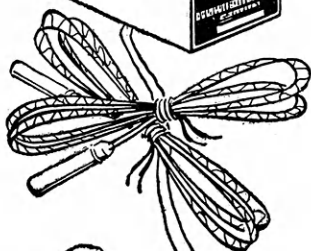
variety were planted every five plots to avoid any errors from differences in the soil. The results as regards the yields of the different varieties are shown in the following table:

Variety	Yields in Tons Per Acre			
	1925	1924	1923	Av.
Dakota 12	5.33	5.20	3.40	4.98
Kansas 435	5.29	5.71	3.51	4.84
Sunflower	5.43	5.62	3.39	4.81
Grimm 444	5.23	5.15	3.95	4.78
Italian 2123	5.08	5.33	3.69	4.70
Cossack 2204	4.83	5.41	3.80	4.68
Kansas Common	5.29	5.17	3.27	4.58
Argentine 2231	4.78	5.23	3.41	4.47
Utah 2234	5.02	5.22	3.18	4.47
Turkestan 2230	4.34	5.35	3.29	4.33
Dakota Common				
445	5.06	4.44	2.61	4.04
Ladak	4.65	4.81	2.38	3.95
Provence 34886	4.14	4.72	2.80	3.89
Cape Lucern				
48094	4.48	4.56	2.58	3.87
Spanish 7101	4.05	3.14	2.56	3.25

(Continued on page 28)



MAKERS OF POWDERS SINCE 1802



Dynamite isn't all there is to a satisfactory blasting job

A GOOD, clean shot depends upon complete detonation caused by using reliable blasting accessories. The apparent saving by using uncertain accessories (if any at all) is insignificant. Du Pont Blasting Accessories are always dependable.

Du Pont Blasting Accessories are made specifically for use with du Pont Explosives. Fuse, blasting caps, blasting machines—all accessories, in fact—are given the most thorough inspection at every step of manufacture. In the field their action is constantly watched by experts to see that du Pont Blasting Accessories are kept up to the required standards.

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Write for free copy of "The Farmers' Handbook of Explosives." Used as a text book in many agricultural colleges. There are 100 pages of illustrations and up-to-date information. Write today!

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125 YEARS OF LEADERSHIP IN THE SERVICE OF INDUSTRY

THE POULTRY INDUSTRY APPLIES THE RESULTS OF POULTRY RESEARCH

(Continued from page 7)

with Cell-O-Glass screens when the temperature is such as to need them closed. One of the interesting features planned in this house is in the dropping boards. These will be of the endless belt type, such as the bottom of a manure spreader, and will be equipped with electric motors so that by simply touching a button these dropping boards will start rotating and drop all of the material directly into the basement room of the building. In this way the dropping boards will be cleaned every day with very little difficulty.

Mr. Smith expects to have his brooder house ready for the brooding of his chicks next spring, and will have his new egg factory (laying house) ready to house his 10,000 hens by next fall. Perhaps there is no other case in which the scientific facts, discovered in the agricultural experiment stations of the country, have been so quickly adapted to practical use and have made such radical changes in existing methods.

Mr. Smith attributes his success along this line to two important discoveries. The first of these is the discovery of the importance of Vitamin A in the poultry mash, and the second, the important discovery of ultraviolet light and the fact that the health-giving portion of light is almost entirely removed by ordinary window glass, while it passes through glass substitutes such as Cell-O-Glass.

SAVING NATIVE PASTURE

(Continued from page 8)

than the rest it may be further protected by rearranging the system of rotation.

On some farms, especially in the flint hill district, the three plot rotation may not fit well into the system of beef production. Also there is the expense of the extra fencing. A new two-field system is being worked out to overcome this difficulty, and although the results are not yet final they will undoubtedly prove beneficial. The pasture here is divided into two plots, each part being protected for two years. It has not been found

definitely how late the grass must be protected. Prof. A. E. Aldous, associate professor of pasture management in K. S. A. C., states that it is his belief that protection until August 1 is sufficient and that until July 15 may be all that is necessary. However, it will take years to ascertain these details definitely. At present each farmer can work out for himself a system best suited to his pastures and to his type of livestock production, basing his plans on facts that have already been discovered.

The acreage of native pasture in Kansas is becoming less each year. This should be prevented whenever possible because once grass land is plowed up it cannot be restored. Although cultivated grasses will grow in the eastern one-fourth of the state, they are not so good for either hay or forage as the grass of the Kansas prairie.

THE HOME ORCHARD

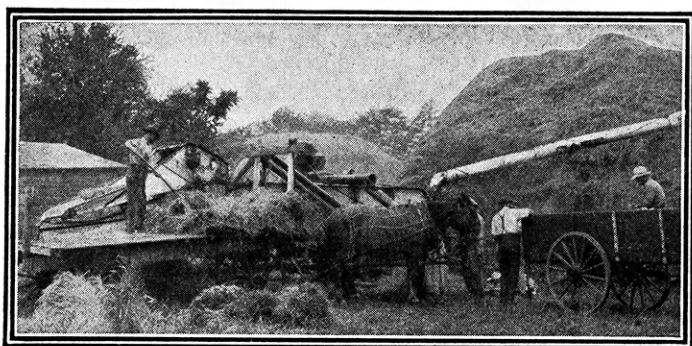
(Continued from page 12)

ries, intelligent buying and planting, followed by intelligent and interested cultivation and general good orchard practices, will insure a supply of fruit for nearly every Kansas farm in most sections of Kansas. The time and outlay will be forgotten with the first few crops of healthful, appetizing fruit.

The Department of Horticulture of the Kansas Agricultural Experiment Station ascertains the basic and reliable practices of Kansas orcharding and publishes practical and reliable information thereon. This information is available from the station directly or through college extension agencies. Anyone interested can secure reliable information regarding any phase of orcharding under Kansas conditions by addressing a request to Agricultural Experiment Station, K. S. A. C., Manhattan, Kan., or by conferring with the county agricultural agent, or other college extension workers.

H. L. Lobenstein, '26, is managing the home farm near Bonner Springs.

C. C. Cunningham, '03, who is farming near Eldorado, is president of the Kansas Crop Improvement Association.



Thirty Profits, or—

The man who said, "Opportunity knocks once at every man's door," forgot farmers. Opportunity knocks at every farmer's door thirty times—once at each harvest for thirty years, the average working life.

But even with thirty opportunities it is necessary to make the most of each one, if a man is to be accounted successful. The average cost of power and labor (60 per cent of all production costs)* eats a great hole in the profit account. And each year this condition, until it is remedied, affects one-thirtieth of the profits of a lifetime.

This is the value of Case machinery—that it cuts down power and labor costs to a point where each harvest shows a profit. However many, or how few, of your harvests may yet be coming, you can make more money each year with Case machines.

"Better Farming with Better Tractors" tells how to make the most of each precious harvest. Write for a copy.

*See U. S. D. A. Bulletin No. 1348.

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THE GREENHOUSE INDUSTRY

(Continued from page 14)

of florists from all over the United States. A very interesting experiment was carried on last year dealing with the propagation of conifers from cuttings. The experiment involving some 1,500 cuttings of many coniferous species and varieties has proved sufficiently successful to warrant further work along this line.

The knowledge of floral arrangements is desired by every florist and is one of the courses stressed at the college. In the past this line of business has been handled by women almost exclusively, but of recent years, due to the magnitude of the business, men in rapidly increasing numbers are engaged in this very important division of the flower business.

There will always be a demand for college-trained men in florist shops as designers and decorators, and especially is this true in the large cities. Even the small city florists are seeing the need of well-trained college men having a knowledge of the greenhouse industry. Landscape architects with some knowledge of greenhouse work are needed in laying out real-estate and private grounds. County agricultural agents with not only a knowledge of agriculture but of floriculture are exceedingly desirable. The florist supply houses are also seeking men with floriculture knowledge to represent their firms. In fact, a man entering this business has chosen one of the most interesting and delightful fields for his life work.

Still another phase of the work is open to the worker in floriculture and that is the experimental field. The demand for this kind of work is shown by the great interest commercial men show in the experimental work conducted by the Agricultural Experiment Station of this college.

The future of the greenhouse business rests entirely in the hands of those most interested. In this age of competition the modern florist is building, expanding, producing still better stock, advertising, and endeavoring to give even better and more courteous service than he has shown in the past. The interest of the commercial men in college-trained men indicates that the growth in the

work in K. S. A. C. is not too great to supply the demands in Kansas and beyond the state line.

ALFALFA VARIETIES

(Continued from page 24)

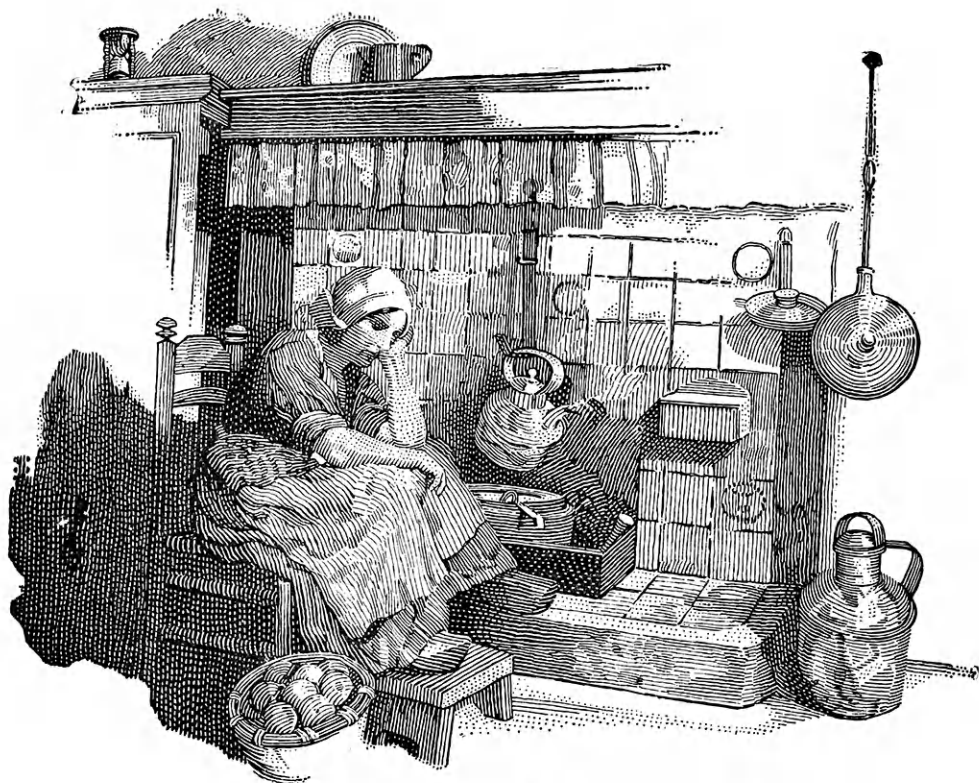
From the results secured thus far it seems that there is no variety of alfalfa better suited to Kansas conditions than the Kansas Common. The yields of the best three or four varieties are very close and the differences can probably be explained on a basis of experimental error.

Grimm and Cossack alfalfa are varieties grown in the northern part of the United States. They have shown some superiority over Kansas Common in the experiment, but when the price of seed of these varieties is taken into consideration the superiority is not sufficient to justify paying the higher price.

Italian and Argentine alfalfa have given fairly satisfactory results but the winters have been very mild so far in the experiment so the winter hardiness of these varieties has not been tested to any extent and consequently they cannot be recommended as yet for Kansas conditions.

Spanish, Cape Lucern, Provence, and Ladak alfalfa varieties all show lower yields than Kansas Common and in addition they show marked inferiority in stand. The stand of the four varieties mentioned is much poorer at the present time than during the first season and grasses are coming in rapidly. No doubt the stand will be decreased materially in a hard winter. Because these varieties from southern Europe give poorer yields and are not winter hardy under Kansas conditions they should be avoided.

Farmers of Kansas should realize the importance of getting varieties of alfalfa adapted to Kansas conditions. The best alfalfa seed to buy is the home-grown adapted strain. If seed of Kansas Common is not available then seed from the northern states such as Dakota or Montana or seed grown in Utah will give satisfactory results. Foreign seed should be avoided. If these factors are considered in buying alfalfa seed much disappointment from poor stands and winter killing will be eliminated.



Sand

What does it cost you to clean house, Dutch woman?

"Just sand—white sand."

But sand can do nothing of itself, nor can soap, nor pan, nor broom. It is your own strength that you spend—youth and beauty, chance to live. No woman should pay so much.

Upon thousands of American farms, electricity does many chores, giving women free hours in which to make their lives worth while.



The electric motor is as economical and efficient in doing the farmer's heavy chores as it is for his wife. The General Electric Company manufactures many electrical products which are used on the farm. The G-E Farm Book describing these products may be obtained from your local light and power company.

GENERAL ELECTRIC

MARKETING POULTRY AND EGGS

(Continued from page 5)

instances only 10 to 15 percent more money is received over the amount obtainable at the two-pound weight. This is not a profitable margin.

One item to which many poultry raisers give little attention is the color of feather they choose when selecting the breed and variety they wish to keep. Packers discriminate against all dark feathers and will usually pay from 2 to 4 cents more per pound for birds carrying the buff and white feathers. The reason for this is that dark pin feathers detract from the appearance of the dressed carcass since they show up very plainly. Consumers of poultry are influenced by the general appearance of the skin and general plumpness and incidentally will purchase more quickly and pay more money for the better looking carcasses.

The packers dislike to get birds which the producer has tried to fatten on milk feed (a soft feed consisting of ground grains and buttermilk mixed to a pancake batter consistency) because his feeder cannot get good gains upon these birds. Usually the poultry raiser will not gain by this practice because he does not know what feeds to use and in what proportion to mix them nor has he had sufficient experience to feed soft feed successfully. Often as a result he is unsuccessful and loses time and feed and does not produce so large gains as he could have produced by grain feeding.

About 15 years ago it was quite common for the producer to feed his birds all the coarse grain they would eat before starting to market with them. This worked so well for a while that it became quite a common practice. It was quite a loss to the buyer, so he adopted a rule whereby he would dock cropy birds from 2 to 5 percent depending upon the degree of croppiness. Today people rarely try to make their birds weigh more by this method. The buyer, however, has the docking method for handling unscrupulous producers.

While much improvement in marketing poultry and eggs has been made, there is room for further progress. One of the best

ways to receive greater profits from these products is to get acquainted with the buyer and find out what grade and quality are wanted and what season of the year they are wanted. Such cooperation will accrue to the mutual benefit of seller and buyer.

V. F. Stuewe, '15, is farming near Alma.

E. F. Burk, '22, is a graduate student in Iowa State College, Ames.

J. H. Shirkey, '26, is county agricultural agent in Meade county, with headquarters at Meade.

Guy H. Faulconer, '26, editor of the Ag Student last year, is managing the home farm near Eldorado.

W. H. Atzenweiler, '26, is county agricultural agent in Brown county with headquarters at Hiawatha.

J. C. Wingfield, '23, has resigned from the government service in Alaska and has organized a stock farm on Kadiak Island.

Roy W. Kiser, '14, has resigned his position as extension specialist in animal husbandry to take up work in the life insurance business.

A. C. Hoffman, '26, business manager of Ag Student last year, is county agricultural agent of Pawnee county, with headquarters in Larned.

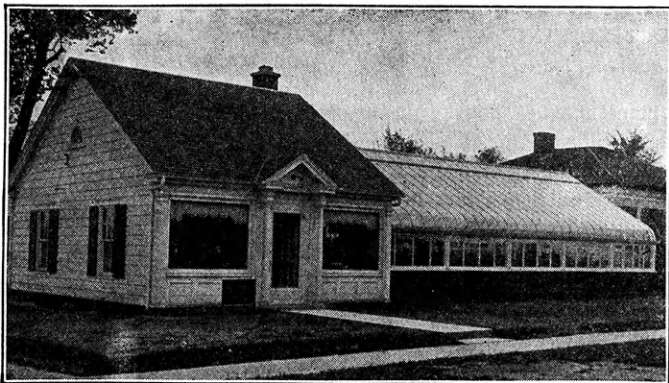
Donald B. Iback, '23, is taking graduate work in K. S. A. C. He is specializing in soils. He was formerly county agricultural agent in Rush county.

G. L. Cleland, '14, for the past two years county agricultural agent of Sherman county, has resigned to take up similar work in Union City, Tenn.

Charles A. Jones, '24, has a fellowship in agronomy and is taking graduate work in the State College of Agriculture and Mechanic Arts, New Brunswick, N. J.

R. L. Stover, '24, fellow in dairy husbandry, Oregon Agricultural College, Corvallis, spent a vacation period in Manhattan and vicinity last summer.

H. T. McKeever, '22, is doing graduate work in K. S. A. C., specializing in pomology. For his thesis he is making a survey of the apple stock production in the Kaw valley.



If This College Man Can Make It Pay Big So Can You

HE worked his way through college.
The girl he married was a school teacher.
Long before he graduated, they decided that they would build a flower shop with a greenhouse attached.
Build it right along the State road, where they could catch the auto trade.

So we designed for them the entire outfit.

From the very start it started paying.

Each has their part to do.

Each are having the time of their lives.

It's a wonderful business for a man and his wife.

Can't you just see that girl of yours, buzzing around in a charming flower shop like this, arranging the flowers, and humming one of your college songs the while?

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RELATION OF FARM INCOME TO STANDARD OF LIVING

(Continued from page 6)

Department of Agriculture (1) bears out the general assumption that as the income becomes larger the amount spent for living purposes increases. A significant fact in this connection is the change in the character, as well as the amount of the expenditures. As the income increases, food forms a smaller percent of the total expenditures for living purposes; while the percent spent for rent, clothing, heat, etc., remains more or less constant, regardless of the size of the income. As the expenditures increase a larger percent of the total is used for education, literature, music, and travel; while the percent spent for the maintenance of health increases only slightly. As the income increases the amount available for modern conveniences and cultural advantages increases more than in proportion to the size of the income. Since the additional expenditures are used to satisfy new wants, rather than expanding the previous desires, a large income may add to the standard of living more than in proportion to the increase in total expenditures.

A comparatively small increase in the farmer's income may result in a much higher standard of living. On the farm the additional expenditure may buy modern conveniences and labor saving appliances, or it may be used to provide music, literature, and education. The income is seldom sufficient to satisfy all desires, so that choice must determine which wants are to be satisfied. It is important that the farm income be sufficient to provide a standard of living which places the farm family on an equality with other groups.

The relation of the farmer's income to the incomes of other groups of society is important. If the farm income is comparatively low, men will be attracted to occupations which yield a larger income. The size of the income may influence the type of men as well as the number who become farmers. If the

farm income is so low that it limits the standard of living, agriculture cannot compete with other industries for the most capable leaders. Efficient, well-trained men and women are capable of obtaining and usually demand a high standard of living, and they will not choose an occupation which does not offer them the standard of living they desire. The farm income has an important influence on the future of agriculture as well as upon the present rural living conditions.

WINTER BURNING SOLVES THE CHINCH BUG PROBLEM

(Continued from page 9)

ment in 1910 led to a number of county-wide burning campaigns in 1911 and 1912. The results secured in these counties were even more striking than those obtained in the first trial, and established the value of this method of chinch bug control. The cooperative burning over of the hibernating quarters of the chinch bug is now recognized as the most practical and most economical method of control. Where this is practiced in an area of a township or more in extent, the chinch bug problem is solved for the ensuing year.

Sheridan Settler, '26, is assistant teacher of vocational agriculture in Western University, Quindaro, Kan.

Neil L. Rucker, '13, has been appointed county agricultural agent of Sherman county with headquarters in Goodland.

George A. Filing, '24, M. S., '25, is assistant entomologist in the Ohio Agricultural Experiment Station, Wooster.

J. J. Moxley, '22, has resigned his position as county agricultural agent and has accepted the position as extension specialist in animal husbandry in K. S. A. C.

A. K. Saunders, M. S., '23, is a lecturer in botany and a research worker in plant diseases in the Potchefstroom School of Agriculture, Transvaal, South Africa.

C. E. Graves, '21, formerly county agricultural agent of Wyandotte county, recently took up his duties as extension plant pathologist in K. S. A. C.

1. E. L. Kirkpatrick and J. T. Sanders. The Relation of the Ability to Pay and the Standard of Living Among Farmers. United States Department of Agriculture, Department Bulletin 1382. 32 pp. 12 figs.

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