

KANSAS FARMER

FOR THE IMPROVEMENT



OF THE FARM AND HOME

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Science In Plant and Animal Breeding

By Honorable Willet M. Hays
Assistant Secretary of Agriculture

Civilized countries are discovering that by breeding, the annual product of domesticated plants and animals may be increased several billions of dollars in value, thus lessening to some extent, the inevitable increase in the cost of food and clothing to the consumer, while not decreasing the returns per acre to the producer. This economic concern and the interest men take in delving into science are uniting to compel men to develop the science of breeding and to utilize this new knowledge on a scale commensurate with the interests of the nearly two billions of people which the world must feed.

Modern facilities for the transportation of thought, of men, and of materials will soon have obliterated the partitions between the countries of the earth, throwing all of mankind into one community. Already science knows no national lines. Commerce is constantly increasing the fluidity of trade between nations as well as between states. Men not only bring the ideas of all countries to one new country, but they mingle the blood of many races of men into a common stream. Domesticated and wild plants and animals are being transferred from their original habitats to all other regions where they may respectively prove of value, either in their purity or when recombined into new types. Under modern science the Mendelian unit characters are being sought out, transported and, by breeding, assembled into newly fashioned varieties, breeds, and even species with enlarged economic values for each given locality and purpose. And science is not only organizing the vocational education, even of all the productive classes but it has begun to study heredity in man and to at least dream of the possibility of recombining the virtues of the different families in grander races of people.

For the most part, variety and breed improvement is and probably ever must be a relatively slow and tedious process. In most lines there has been discovered no method of making rapid improvements. None better knows the falsity of claims of marvelous and rapid changes by breeding than those who make these claims.

The breeding of living things cannot be wrought out under the rigid application of scientific facts and formulas as can the construction of a drainage system, a railroad or a manufacturing plant. Under the guiding hand of science, art in breeding must also have scope. In fact, in no other line is there such large and complete union of science and art. Along with the broad scientific conceptions of Darwin, the mathematical precision of Mendel, and the statistical records of performance of the modern plant breeder, there must be the art of the sculptor, of the painter, and even of the musician, all put into operation with somewhat of the genius of a Burbank.

Breeding is becoming so much of a technical profession that a close division of labor is rapidly becoming important. It may be expedient for a few men to work with a large number of species and genera, that they may perform the special service of giving a broad scope to the general subject of breeding; but for the most part,

more rapid results and larger results will be achieved by each worker concentrating on a given species or on a group of related species. Many men have already fully demonstrated that scattering, discontinuous efforts, using small numbers of each of a number of unrelated species, is the way to get nowhere in creating improved forms of plants and animals. No doubt that even as great a genius as Burbank would have to his credit a far larger economic addition to America's plant products had he confined his efforts to half a dozen important species. Your humble servant worked for 20 years with about 20 species, the purpose being in part to gain a broad view of the subject of breeding, and to prove the large economic value of plant and animal improvement. The creation of new forms, of the great staple crops, was rather a secondary consideration. But even in this case better scientific as well as far larger immediate economic results would

have accrued if the work had been confined to not more than one-third of the species used.

The creative breeder who works with one of a few species can compass the collection of all needed basic materials from all parts of the world. He can not only learn the unit characters of each acquired variety, but he can with a fair degree of success follow these unit characters in the recombined forms which he produces by hybridizing. In other words, without a too extended variety of basal materials he can gain an intimate knowledge of the basal unit characters, as does the painter of the primary colors which he blends to represent on the canvass the desired forms and tones. It is true there are some species, as wheat and barley, yeast and bacteria, the breeding of which can be done in larger part under scientific performance, where it may be that mere art takes second place. On the other hand, in the

breeding of strawberries, peaches, chrysanthemums and orchids the eye of the sculptor and painter and the taste and smell of the epicure are at least of equal importance with scientific methods. The art-expression of a people is said to be the highest means of expressing civilization. Once the breeding of living things reaches that development of which it is capable, it may be that those most brilliant in creative breeding will have the highest place at the head of the class of artists. Certain it is that the molding of living things which express the greatest beauty of form, color and fragrance will give to him who can apply science and art to living protoplasm, a scope for scientific knowledge, prophetic vision, and artistic skill far beyond that possible to apply through the chisel or through the brush alone. We need so to organize our work of creative breeding that the nations can command the talents of men with the greatest genius for all the phases of the betterment of plants and animals by breeding.

During the past decade or so science and practice have begun a re-statement of the principles underlying heredity and breeding. The analysis of the subject, the nomenclature and the philosophy of Miles' Stock Breeding, which for the third of a century was the accepted text book along this line are now being rapidly reorganized. Mendel's laws of segregation, dominance and recombination; DeVries' mutation theory and its corollary amply proven in practice; the breeding; the possibility of organizing large and efficient breeding establishments; the introduction of the subject of practical breeding into agricultural colleges and schools; and the development of men trained in the science and art of breeding; also the beginnings of a usable literature based on the technique developed in scientific plant and animal breeding, are all combining to make a new world for human efforts.

Mendel's discoveries, and the discoveries of his disciples following his methods of research, have given us some valuable principles which have use at least in a narrow range of breeding operations. But in addition to this, these investigations have most profoundly aroused science to the possibilities of investigating operations of heredity, both concerning natural evolution and artificial evolution or breeding. DeVries' investigations, with possibly even a larger immediate value than Mendel's, have also done much to attract men with a scientific bent to delve into the secrets of those elusive somethings which carry units of heredity from one generation to the next and often lie dormant to appear possibly in their original purity after two or even many generations of recessive somnolence. While Darwin developed the fact of the evolution of species, these men have sharply turned attention both as to how nature's evolution may be studied, and also as to how man may rapidly recombine and evolve nature's forms into types of higher economic value.

The aggregate efforts in the breeding of plants of the United States Department of Agriculture and of the

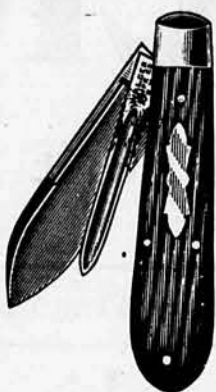
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"The wheat fields are the most pleasing feature of agricultural conditions in Kansas. These great tracts, now green, will soon be golden and ready for the harvester. The crop will supply the home demand, feed thousands in neighboring and distant states and bring heavy cash returns to the farmers. Big crops mean higher prices for land, better homes, more pianos and automobiles and other articles of recreation and comfort.

"The early settlers in the western part of Kansas abandoned their farms in 1893-4. They were not prepared to meet adverse conditions and their methods were not as efficient as they are today. Their successors have fenced the lands and built substantial houses and barns and in many instances they plow with steam and gasoline as motor power and ride in modern vehicles.

"That the present generation are good farmers is shown by the outlook for this year's crop, described by one enthusiast as 1,000 per cent above the average. That the people are wide-awake, anxious to work together and realize the advantages of organization is evidenced by the organization recently at Hays City of the Western Kansas Farmers' Conference, a branch of the Dry Farming Congress. This is the first state organization of its kind.

"The Kansas farmers are also realizing that their State Agricultural College is a great institution for helping them and they are rallying strongly to its support. This institution has been reorganized within the last two years with Dr. Henry J. Waters, formerly of the University of Missouri, as president, and Ed. H. Webster, Kansas born and bred, as director of the experiment station. The latest addition to a corps of brainy workers is W. M. Jardine as agronomist. Professor Jardine has worked for the Utah Agricultural College and the U. S. Department of Agriculture and is a western man in his sympathies and training.

"The Kansas College has at Fort Hays what is said to be the largest body of land in the world devoted to agricultural experimentation. Eighteen hundred acres are now in cultivation, and of these 675 acres are in wheat, the staple crop of western Kansas.

"Upon the occasion of the formation of the Kansas Farmers' Conference, several hundred farmers visited the Fort Hays experimental plots and looked over the work of the college men, and much interest was shown by the farmers in the beneficial results of deeper plowing and more thorough cultivation and the use of improved farming machinery."—E. J. Iddings, Commissioner, Dry Farming Congress.

The State Chemist of Texas is said to have proved that cotton seed flour is not only healthful and nutritious, but delicious as well, when properly made into bread. The flour is merely cottonseed meal with the hulls all removed. While many persons claimed that they really liked the bread, ginger snaps, biscuits, etc., which were offered as samples, it must be remembered that cotton seed contains but little starchy matter and if it is ever adapted to human food it must be as a substitute for meat rather than bread—a sort of human dog biscuit.

The experts in charge of the government census are already making estimates of the number of members of Uncle Sam's family. The director of the census is credited with having placed the number at 90,000,000 at the least, and this is based upon every known element, including the birth and death rates, immigration facts and the tendencies shown by the last three federal censuses.

KANSAS FARMER EDITORIAL

With which is combined FARMER'S ADVOCATE. Established 1877.
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ROOSEVELT AT HOME.

Perhaps no man in all history has been so much in the public eye and enjoyed such a world wide popularity as has Colonel Roosevelt. America appreciates this because he is one of her sons, and questions are frequently asked as to what he will do since his return. It is conceded on every hand that he will not become a private citizen. He is not built that way. He could not be a private citizen if he wanted to, and it is not thought that he wants to. Besides, the public would not permit him to retire to private life in any case. Many attempts have been made to analyze his character and his history, determine wherein lies the enormous power and influence which he exerts, and the tremendous degree of popularity which he enjoys. It is thought by some that he is the result of an evolution in which the comingling of all the races of the world have developed the man. Other explanations are given, but perhaps the real one, at least the most satisfactory one, is that he is so typically and truly American. Endowed with a vigorous constitution which he has kept in thorough condition and training, and a mind which he has developed in a remarkable degree, he embodies in one personality the popular idea of the real American. Absolutely fearless of men and things, he sometimes ventures into unnecessary danger but always escapes with new luster added to his reputation. When his political enemies prepare a pitfall for him which would result in the annihilation of any ordinary man, he guilelessly walks into it and then coolly steps out with no injury to himself and much discomfort to his antagonists. Whatever of good there may have been in the strenuous life of the Colonel, there is certainly one thing that should be preserved for future generations. This is the fearless, manly way in which he has faced all kinds of problems until victory has become a habit.

Ever think how the correspondence school idea is spreading? This was started as a business college proposition, but it had so much of merit in it for those hasty Americans who could not take time to go to a regular school in the regular way, that the big state universities and colleges have taken it up and are making the most of its methods to bring the class room benefits to those who cannot or will not acquire learning in any other way. And it is of real value to those who wish earnestly to learn. Instances of conspicuous success in a chosen profession which has been attained by those who had little or no other training are numerous and easily cited. With its popularity and worth has come greater demands until courses are now offered in almost every branch of learning. Indeed, a course in aviation is about the only one not offered along lines of great popular interest, and this may come.

TAKE A LOOK AROUND HOME.

A letter just received from a young man announces that he can secure government land in Saskatchewan, Canada, for \$3.50 per acre and the writer adds, "me for a chunk of this." This young man has attained his legal majority and is supposed to be able to look out for his own best interests. He is ambitious, energetic, a willing worker and is naturally anxious to secure a home of his own. He is now a wage earner who can manage to lay by a little cash each month and the ownership of a piece of land is his ambition. What could be better or what more worthy? And yet, is he headed in the right direction?

Like the government land in the United States there are other conditions attached to ownership than the initial cost. Also like thousands of others, this young man has been tempted by the idea of securing some "poor man's land" and has not as yet stopped to consider that it is not poor man's land at all. On the contrary, it is possible to secure good land in the best county in Kansas at a lower actual cost than is asked for the poor man's land now offered by this and other governments.

The other day a prominent man from Missouri addressed a Topeka audience on a subject concerning the general wellbeing, and in the course of his remarks he told of two renters in his state near the Kansas line who cleared up, last year, over and above all expenses the handsome sums of \$12,500 and \$12,008, respectively.

It is true that a renter who can accomplish such results is a rather unusual man or else he had unusual opportunities, or both. But the mere fact that it was done last year gives some ideas of the possibilities.

This editor numbers among his friends a young man who netted the neat little sum of \$3,600 last year on an 80 acre farm composed of high priced land right here in Kansas. This may be another unusual man, but the two instances cited will surely indicate that the average man can do well here and they, with the results generally obtained on Kansas farms, will prove, it seems to us, that good Kansas land is within reach of the poor man and even though he pay \$100 per acre for it, he will have bought it cheaper than the raw land for which only \$3.50 per acre is asked. If he buys Kansas land he can live while he is paying for it. If he chooses the other he will pay more in the end and be compelled to help to construct a community, a county, a state as well as a farm, and merely vegetate while doing it.

Nearly 200 automobiles were driven to the great farmers' meeting at Hays, Kan., last week by their farmer owners. This may be taken as an index of the prosperity of people in the great American desert or of the quality of their roads, or both. One party drove 92 miles in an auto to attend this meeting.

THE KANSAS STATE FAIR.

It has long been a matter of wonderment among the progressive breeders and farmers of other states, that Kansas has no state fair in the sense that it has an institution of this name supported by legislative appropriation. This condition has attracted so much attention outside of the state that it has not only been the subject of derogatory remarks, but has been actually harmful to the state because it is taken as an index of non-progressiveness. The idea that Kansas is non-progressive in anything is supremely ridiculous to those who know the state, but there are many who do not know.

Recently the Kansas City Journal in a strong editorial took notice of this condition of affairs in the following vigorous language:

"But Kansas needs a state fair. It is almost incredible that Kansas, the banner agricultural commonwealth of the nation, where fine stock raising, dairying and general farming have become modernized upon up-to-date scientific lines, should be practically the only agricultural state in the Union that does not boast a pretentious state fair. Kansas is particularly rich in all those elements that go to make such a fair successful. It has superior railroad facilities, an enterprising and wide-awake people and unrivaled resources.

"Kansas farmers are the most up-to-date and enterprising agriculturists in the world. They have taken to scientific planting and stock raising with a state-wide enthusiasm that will remain a permanent factor in maintaining the state's superiority as the granary and larder of a great nation. State fairs are, first of all, educational. There are given demonstrations of methods and theories that are of practical benefit to every farmer who attends. Of secondary importance, yet of vital concern, is the social feature. The families of farmers and citizens generally have much pleasure and amusement at big fairs. There they renew friendships and get in touch with each other. Such annual reunions are always looked forward to with delightful anticipation.

Public sentiment in Kansas is in favor of a state fair and strongly so, but a controversy over the proposed site has been sufficient to deter the legislators from taking action on what they know to be their plain duty to the people. A bill was introduced at a recent legislature which had the sanction of the Kansas Improved Stock Breeders' Association, the State Board of Agriculture, the State Horticultural Society and practically every other live stock and agricultural association in the state. This bill provided for the appropriation of an amount of money sufficient to establish a state fair, and delegated the selection of a site to a commission appointed by the Governor for this purpose. Every public institution in Kansas, from the State University down to the Penitentiary, has been located in this manner, and the location of a state fair in this way would be simply the following of a precedent well established through a half century of custom.

It will be realized by all thinking people that the state fair must be free from partisan politics; hence, the bill provided that the members of this special commission appointed to choose a location for the state fair should be equally divided between the political parties, and in order to further insure the freedom of the fair from political influence, the bill provided that it should be under the management of the State Board of Agriculture. Missouri has one of the most successful fairs in the West, and one that has grown into prominence within the last ten years. This fair is under the control of the Missouri State Board of Agriculture, a standing committee of which constitutes the Board of Fair Managers who elect their own secretary and thus relieve the secretary of the State Board of Agriculture of any duty or responsibility in connection with the management of the fair other than that of vouching the vouchers. The Missouri Fair is a model, both in its management and results, and Kansas may well afford to pattern after it.

Handling the Great Kansas Hay Crop

Next to the corn, wheat and live stock, hay is the most valuable product of Kansas farms. Its value runs into the millions each year and its tonnage is enormous. With all our modern machinery and with all our desire to make the most of our resources too much of the older practices in hay making still prevail and the loss in curing and handling hay mounts up into figures that even the well-to-do farmers can ill afford.

Great stress has been laid upon the advantages of selecting well bred corn and other seeds, and most farmers are glad to secure samples of established varieties in the belief that their yield will be increased. Statisticians have told the public repeatedly how much of increased wealth would be added to the state each year if even one bushel more of corn could be produced to the acre. Farmers have taken the advice of experts and are working to improve their corn, yet if they waste it in the harvesting they do not materially profit. The same is true in regard to hay. Prairie hay has an established value and yet the farmers have been taught that there is greater value in the tame hays and clovers and as a result Kansas now has an acreage in alfalfa that approximates one million acres. The value of this hay for home consumption is well established and when the Kansas alfalfa is ground into meal it has a recognized value and steadily increasing market in the eastern states and in the dairy countries of Europe. The demand for it is increasing and the price has gone up. Being so valuable, the farmer can not afford to lose any great quantity of it in the curing operation.

Hay stacked in the field suffers a heavy loss from deterioration of the bottoms and bleaching of the tops and sides. This loss is estimated by competent men to be from 20 to 25 per cent on every stack so that if the stack contains four tons one ton is absolutely lost. While it is not believed

Large Losses May Be Avoided by Proper Handling at Haying Time

that this estimate is placed too high it is believed that it should be modified by the added statement that only about 75 per cent of marketable hay is usually saved from that which is stacked in the field.

A little study of methods will serve to decrease this enormous loss if not indeed to abolish it entirely. Hay that is properly cured and put under cover suffers no appreciable loss but even that which is stacked in the field may be handled to a much better advantage than is now the case in too many instances.

Most farmers know exactly when to cut their hay though perhaps the alfalfa plant is the only one which signifies its readiness to be harvested. When alfalfa is about one-fourth in bloom it begins to throw out buds near the crown and this is an indication that the crop is ready to cut. If cut at this time a greater percentage of the nutrient value of the plant is saved as well as a greater volume of leaves. If not cut at the proper time the small shoots starting from the crown serve to monopolize the strength of the plant, while the older growth begins to harden, to ripen its seeds and ultimately to shed its leaves.

Common practice is to allow alfalfa to wilt after cutting and then put it into cocks for protection against possible rain and there allow it to sweat out. Another practice is to cut in the afternoon and allow the hay to lie in the swath until wilted and rake it into windrows and haul it to the stack or barn the next day after the dew is off. A better method is to handle it by the side delivery rake as it is absolutely necessary that hay should be cured as quickly as possible without

too long an exposure to the sun. When first cut alfalfa is said to contain about 80 per cent of water. When properly cured to go in the stack or barn it should not have more than 20 or 25 per cent. Bright sunshine and air will cause the evaporation to take place very rapidly and the time of curing is not a long one if the weather conditions are favorable. It is always desirable to handle any of the clovers and especially alfalfa as little as possible in order to prevent the loss of the foliage, which constitutes the most valuable part of the hay. If it is over-cured in the sun it loses greatly in weight, in leaves, in color and in palatability, each of which has a market value. Alfalfa of a bright green color readily commands the top market price and the object in curing it should be to retain this color, together with all of its leaves. If the hay is allowed to cure in the swath and then put into windrows with the side delivery rake, it will generally be in the finest possible shape for going into the barn.

The market demand for alfalfa is created by its high value in protein. When fed with corn it makes a very nearly perfectly balanced ration. Manufacturers of alfalfa meal demand a high quality of hay of bright green color that has been well cured without heating or the loss of leaves. Alfalfa hay is also used by other manufacturers and all demand the best. If the farmer is raising hay for sale it pays him to properly care for his crop as the range of prices between good and poor alfalfa is a considerable one. If he is raising it for home consumption it will pay him equally well if not better.

Naturally, the best way to preserve this hay is to store it in the barn. This may be done either as loose hay or in bales. The experience of many farmers as reported in the meetings of the Shawnee Alfalfa Club and elsewhere shows that baling direct from the swath is becoming yearly more popular because it is more profitable and economical. This operation saves one handling of the hay and consequent loss of a large number of leaves. It also prevents a loss of palatability, color and nutritive value through bleaching. It prevents a further loss by permitting the farmer to hold his hay until the market is right, when he can deliver in the compact bales almost regardless of the condition of the roads, when if it was not baled it could not be delivered at all and he would be obliged to take such price as he could get when the roads get into condition and everybody else was hauling hay at the same time.

When hay is stacked in the field the top, bottom and sides of the stack must be rejected as marketable hay though some of it may be used for home consumption or for bedding. If baled directly from the swath there is no such loss and a ready market is always found at good prices. Low grade hay is hard to dispose of and never brings remunerative prices while good hay is always in demand. If baled direct from the swath it may be hauled at once to the barn or to the hay shed, where it should be piled with each bale on edge and in such a manner that about four inches of air space is left between the bales. Freshly baled hay should never be laid flat or closely packed. After the bales have stood on edge for five or six weeks, they may be repacked in the barn or shed and laid as compactly together as possible. They are then safe from heating. Hay put up in this manner will easily sell for a dollar or more per ton over

(Continued on Page Five)

NATURE'S SLOW WAY IN FOREST BUILDING

By Professor Albert Dickens, K. S. A. C.

Explanations concerning the treelessness of Kansas prairies have been plentiful, varying from the effects of wind and sun to the presence in the soil of substances and organisms which are fatal to tree growth, but any explanation that in any degree explains must give large measure of importance to the effects of fire.

Early settlers remember the story of an old Indian who was the last of his tribe to leave the headwaters of the creeks now known as the Kiowas, how they attempted to discourage winter visits of northern tribes by burning the prairies north of the Arkansas. The deer and buffalo would desert the burned tracts and the roving Indian would find no pasture for his war horse or pack pony. Other years his northern neighbors reached the river with a friendly north wind and then the fire raged to the creeks of the Cimarron watershed. And all the time the fire was the factor that kept the timber growth from encroaching upon the domain of the prairie. In central and western Kansas the natural timber is restricted to very narrow belts along the streams.

Wherever the banks were sufficiently broken to check the fires, timber grew.

Since the prairie fires have been restricted and the fuel need of the settler supplied by the coal miner and freight car, the area of natural timber has increased at a most gratifying rate. Thirty years ago the Arkansas, west of Hutchinson, and its tributaries from the south, were practically devoid of trees. Today there are many acres that are under forest conditions and the forest area is increasing. Most of this growth is cottonwood and willow, species that produce large quantities of seed that is blown long distances and germinates very soon after ripening. Species that produce heavier seeds are not so readily distributed, and the time required for their distribution over a given area is very much greater. With nature's slow methods centuries of the most favorable conditions would probably be required to extend the area of heavy-seeded species, but as the forest area increases the forest inhabitants—birds, squirrels and other ani-

mals—increase in numbers, and these agents of distribution help, very slowly but surely, in the introduction of other species. The increase of forest area in the past has been confined for the most part to the alluvial soils of the valley; soils easily change from prairie to forest because the soil is easily penetrated by roots and well adapted to nearly any forms of plant life.

Nature extends the forest back from the streams along ravines and broken surfaces, and works from these back into the upland prairie. The struggle for existence between prairie and forest is a bitter one. The species is indeed fit to survive that can compete for existence with the drought-enduring buffalo grass. But in the few localities where the buffalo grass has been deprived of its allies, fire and cattle, the forest is making progress. A few years' growth of buffalo grass accumulates, the rainfall is held for a longer time by the mulch on the soil, the buffalo grass itself grows stronger and roots deeper, but its prosperity augurs defeat, for the bunch grass encroaches, then takes possession, and is succeeded by blue-stem, the roots ever growing deeper and the soil mulch heavier. Very little rainfall now escapes. The buffalo grass lying close to the ground, packed by hoofs and baked by sun, held little water; but now the drought cannot wilt the blue stem with its roots five feet deep, making a way for the soil water. Then the shade from the trees, which have all the time been gaining in size, favors the horsetweed, the buckbush and sumac appear, and these make a nurse crop for the tree seed; and up the slope, following the bunch-grass scouts and the skirmish line of sumac, the forest trees proclaim their title to the soil. The sermon they preach over and over is that even the driest, hardest soils may grow trees if only the soil be prepared for their needs. The difference in the adaptability of soils for trees was not easily appreciated by the early settlers, and the fact that on the uplands many

failures resulted from even well-planned efforts, has been discouraging. Later investigations concerning soil conditions have added to the knowledge of these soils facts which make it surprising that so many successes resulted from plantings made in soils so poorly adapted to their growth, and also the encouraging fact that most of the Kansas prairie soils improve rapidly with proper cultivation.

Professor TenEyck, of the Kansas State Agricultural College, in securing soil samples from high prairie where the buffalo grass was the only growth, found it impossible to drive the soil tube or even a soil augur deeper than two feet into the soil. Yet such soils after a few years of cultivation and good farming show a measurable quantity of soil water to a depth of four or five feet.

The soil loosened by plowing and cultivation holds the moisture, which penetrates a little deeper; the roots of plants follow and open the way for more water to moisten to a greater depth. The length of time required to insure any given depth of soil moisture varies, of course, with the season and the character and composition of the soil, but in every soil good farming is the great factor in soil improvement.

It is now hard to realize that men seemed to expect the same results on the high buffalo grass lands as on the valley soils. But the optimism of the settler was too often pure enthusiasm with not even a trace of cool judgment. Many times a small hole was dug in the buffalo grass sod, a tree crowded into it, and when it failed to survive such a severe change of conditions the optimist turned pessimist and was sure that Nature had placed the ban upon tree life and that it was "flying in the face of Providence" and "combating Nature's irrevocable laws" to attempt to grow trees under such conditions. Often the tree was killed by supposed kindness. Water was poured into the small area of loosened soil, poured in frequently and abundantly and at great cost of time

and labor, and the soil held the water, the tree stood in mud, with none of the life-giving oxygen in the soil about its roots, and it drowned.

A long drive in any of the western counties is certain to afford an opportunity to note how hard a struggle some trees can endure. Occasionally the long line of the prairie is broken by the survivors of a hedge row or line of road trees set in the days of the "first invasion" of the cattle country, in the later eighties. Set in a narrow strip of breaking that marked the line of the "claim," neglected for years, they have been protected only by the deeply worn ruts of a trail which forms a poor substitute for a fire guard. In hot, dry summers they were browsed by cattle, hungry for something besides the brown buffalo grass, and in winter gnawed by horses high as the starving creatures could reach. Their poor misshapen trunks and bush-like tops tell the story of hard times that are gone. They are sad reminders of the day when optimism ran riot and theories of agriculture expounded by novices fresh from the office and shop were rife in the land. On the opposite page of the prairie, a page made of the same material and exposed to the same sun and wind and storm, is written large the story of the trees planted by the man who tried—the man who used thought rather than theory, and who in the hard years gave the soil opportunity to secure every ounce of moisture that fell, and then worked to help the soil hold it.

There are enough successful plantations throughout the West to furnish lessons for future planters. A study of the successes and failures resulting from the plantings made in Western Kansas forces the conclusion that the factors which determine success or failure are, soil preparation, selection of species, and condition of tree when set. The seasonal variation, particularly as regards rainfall, constitutes a factor of uncertainty, but with the three controllable factors all favorable there have been very few seasons when tree plantations have not attained a very fair measure of success.

SCIENCE IN PLANT AND ANIMAL BREEDING

(Continued from Page One)

State Experiment Stations and of similar institutions in other countries are year by year increasing into a public work of large magnitude. These institutions are by no means usurping the field. They are in fact rapidly increasing the field for private efforts in plant breeding. As yet much less is being done in a public way for animal breeding; and theory and technical practice of plant breeding has within a decade far outstripped the theory and practice of animal breeding. It would seem easy to predict that public institutions concerned with animal improvement will rapidly take the new and inspirational point of view from the brilliant investigations in plant breeding and will lead to a rapid development of the science and art of improvement of domestic animals. It is of interest to note that a dozen years ago the plant breeders received their best inspiration from animal breeders, and that now the tables are turned and that breeders of animals need the inspiration from the accelerated work of the breeders of plants?

Probably the most important recent development in relation to plant and animal breeding is the revision of methods of teaching this subject which is now going on, and we may hope ere another decade passes that our colleges of agriculture and universities will have supplied a group of young men well grounded in all that is known regarding research in heredity and in methods of breeding plants and animals. Certainly this field offers a most enticing prospect to young men with a liking for and with a genius for either research in heredity or for the work of creative breeding in public institutions or on private plant and animal breeding farms. And the field for amateurs who desire an interesting avocation is most enticing not only in relation to pet animals and ornamental plants but in relation to many minor staple crops, fowls, and smaller animals and even with beneficial insects.

We have now gotten back to the

fact that only under peculiar circumstances and in particular cases, can hybridizing be worked out with definite unit characters. In the great bulk of recombining first and second generation hybrids, in uniting the blood of three or more original forms, and especially in blending related forms and forms recently and much hybridized, and in the vast amount of necessary selection work, the art of breeding must be carried out without adhering closely to formal recombinations.

Often the network of descent which happens to most happily produce the most valuable combination does not always appear like the formula which represented the ideal toward which we started. Very often the new acquisition breaks in upon us with an unexpected combination of forms, which resist our attempts at analysis. The wise breeder chooses that which has the largest economic value, somewhat regardless of whether he can trace all the threads of both woof and warp in the new network of descent. And as the years go by the newly bred materials, many of which are highly complex compounds, increase in numbers the breeder will have at his command larger and larger supplies of basic materials. In some cases the breeder will work down or back or up to pure bred basic materials along the lines pointed out by Shull's work with corn, and here formal Mendelian breeding can be practiced most effectively. But it would appear that the larger part of the plan, and of the humdrum details of the work of making over America's plant and animal forces would be outside the practical work of formal Mendelian recombination. And I reiterate that the larger value of Mendel's discoveries and of DeVries' mutation theory will be to clarify our plans of doing the bulk of this less systematic work.

The new philosophy will be expressed in a new nomenclature, and as the years go by, breeding will be taught with more of the simplicity

with which arithmetic is taught. It will always be an abstruse subject, and while the Mendelian philosophy may deem to simplify the recombination of nature's original types, DeVries' mutation theory will continue to relate in a larger and larger way to the importance of using immense numbers, both in Mendelian hybridizing and in the extensive less formal breeding, that occasional superior foundation plants of exceedingly great variety producing potencies may be secured.

Taking all these statements at their face value, it is clear that there is good reason for finding ways of promoting the mode of creative breeding and of distributing all established and new forms of plants and animals to all growers in whose lands they will produce increased values of the products. Never before did public and non-public agencies engaged in securing and disseminating the best seeds, plants and animals, appear so important as now. The Seed and Plant Introduction Division of the U. S. Department of Agriculture, assisted by the federal, state and private plant testing stations, has now been well organized, and its work unfolds larger and larger in scope with every year. The breeding work of the federal department of the state experiment stations, and of those private breeders who do creative work, is rapidly gaining a large status based on substantial achievements. To realize the rapidity of the development of scientific plant breeding one needs only to learn that two decades ago, the botanists of the U. S. Department of Agriculture were debating amongst themselves as to whether it was proper to use the term plant breeding in their bulletins, and it was only a few years earlier when such an intrepid horticulturist as Prof. J. S. Budd of Iowa was giving inspiration to the first classes taught plant breeding in our State Colleges of Agriculture. Now there is no more highly accredited scientific subject in our universities than the subject of

heredity, and special practice courses in plant breeding are being offered in some of our State Colleges of Agriculture. Legislative bodies are ready to appropriate public money for use by men who can show that they can improve the producing potencies of our crops, and of live stock. Even the conservatism of the older school men, often still in charge of state colleges and universities, has been overcome. The farmers are learning that even every-day crops, like alfalfa and clover, as well as wheat and apples, can be so bred that they will produce larger yields, preponderate in certain nutritive elements, show higher color, form, keeping quality, resistance to disease, than do the common types which were dumbly supposed to be all efficient. The breeders of bacteria are giving cheese makers pure cultures of new varieties of bacteria which produce cleanly cheese of the soft types which run uniform and can be safely purchased on sample. Men are laying hold of the pecan tree, the chestnut, and are putting nut growing on a new basis. Others are devising ways of breeding curly walnut and curly maple, that the artistic merit of furniture made therefrom be enhanced, even if that be for the future generation.

Foresters have learned that heredity works in making forest products along the same line that it works in producing the 200 egg hen and the 400 pounds of butter cow. They are not only devising ways of utilizing cuttings from only the most rapidly growing cottonwood parent tree, but they are finding relatively rapid methods of breeding up rapidly growing races of catalpas, pines and other trees which are planted for profit. It is worthy of passing notice that much of the effective earlier breeding of plants was with less important, mainly ornamental species, fruits and vegetables. The greenhouse man and the horticulturist who dealt with individual plants earliest took to following up variations and propagating those from which the seeds came true to the type of the parent.

HANDLING THE GREAT KANSAS HAY CROP

(Continued from Page Four)

the price offered for stacked hay and there is no loss from shrinkage, loss of leaves, flavor or color.

In many parts of Kansas red clover is raised instead of alfalfa. This is usually cut when the plant is in full bloom, or when about one-third of the heads are turned down. It is a more difficult crop to handle than alfalfa because of its different nature of growth and because of the fact that the first and best crop is usually cut when weather conditions are uncertain. Like alfalfa, however, it is most salable when it is preserved in the best condition, and like alfalfa it is difficult to save in the stack because its structure permits the penetration of the stack by rainfall. Even when covered with slough grass or canvas there is sure to be considerable loss at the sides and bottom. In handling clover it is frequently necessary to use a tedder for the reason that it can not be cured in damp, muggy weather and when left in the swath or the windrow it is necessary to turn it so as to have free access to the air on the first appearance of sunshine. If rain is threatening it is better to leave either al-

falfa or clover in the swath until the storm has passed than it is to put in the windrow or into cocks. It will suffer less damage if handled promptly and will not need to be handled so often.

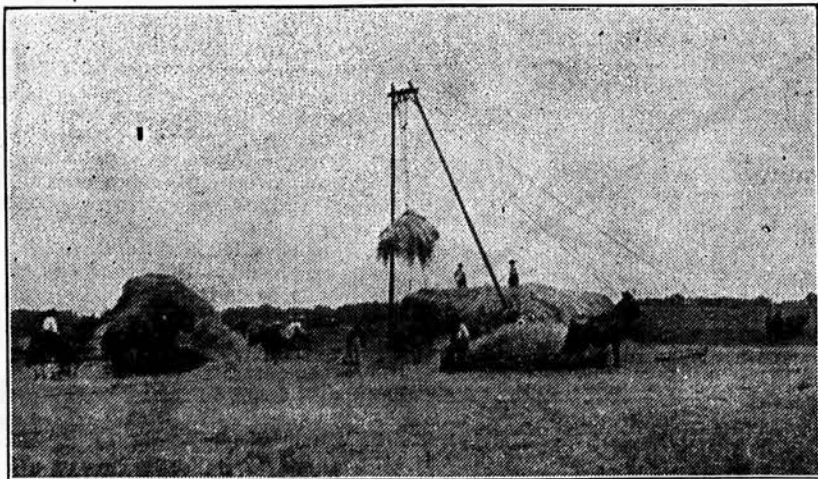
Growers of both these clovers experience the same difficulty in handling the first crop because of uncertain weather conditions and experiments are now under way at the Kansas Agricultural College to determine whether clover and the first crop of alfalfa may not be more profitably handled in the silo than as hay. Last year a member of the Shawnee Alfalfa Club reported his first attempt at caring for the first alfalfa crop in an improvised silo. Both the methods used and the buildings were crude and poorly adapted to the purpose, but the results obtained were so promising that he put up a silo for the express purpose of taking care of his first alfalfa crop. During the winter the results obtained from feeding this later crop to all classes of stock, but especially to the milk cows, were highly satisfactory. The milk flow continued throughout the season, the flavor was of the best, and the increased profits

were such as to warrant the erection of another silo for the following season's crop.

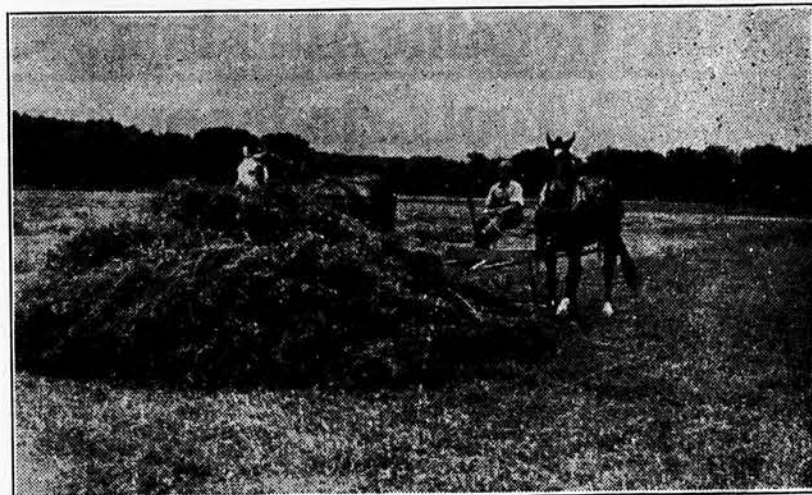
From now on the alfalfa miller is a man to be reckoned with. His demands are rapidly increasing, and can be satisfied only with the highest quality of hay. Alfalfa that was stacked last year and protected by a top of slough grass or tarpaulin was bought by the alfalfa millers who found to their regret that it was off in quality when they came to make their meal. The reason was that the coating of ice and snow, which covered the stacks for so long, melted so gradually that the water had ample time to penetrate the stacks and damage a large percentage of the hay. It is believed by men of sound judgment who are not reckoned among the enthusiasts, that the alfalfa miller will fix the price of hay in the future. Certain it is that the rapidly increasing number of alfalfa mills will create a new and different demand from that which has existed heretofore.

As a general rule, the best hay is always made when the grass or clover is just coming into bloom. Early cut forage is superior to that cut later in

its chemical composition, as well as in its digestibility. As the plant matures much of the protein and other valuable feed elements pass into the seed and are lost to the foliage which is a valuable part of hay. Taken as a whole the late cut hay plant may show the same chemical analysis as does that which is cut early but the food value is in the seed and these are so small that they are not masticated by the animal and hence not digested. Maturity of the grasses and clovers produces toughened fibers which lessen the digestibility and palatability of the hay. Put all hay in the barn if possible and have it baled. Baled from the swath by preference. Where a barn is not available the hay shed is worth its cost. The stack should be a last resort, and when nothing else can be adopted as a means of preservation, special care should be given to selecting the site for the stack, to building the foundation for it, and to providing ample cover which will shed the rain. Where the loss is conservatively placed at 20 to 25 per cent of the hay crop after it has been mowed, the matter of its care and preservation is surely worthy of some thought.



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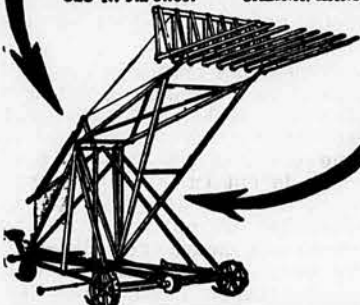
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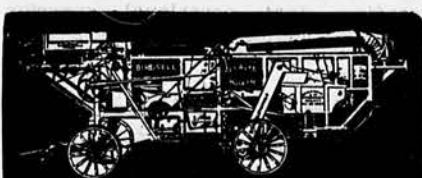
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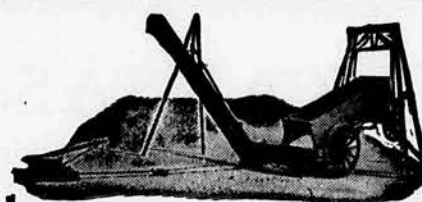
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THE FARM



Irrigation in Kansas.

When irrigation is spoken of most people think of some country lying to the west which was formerly a desert, and little tracts of which have been reclaimed by the meager water supply to be found in the occasional streams of that country. Few people realize that one of the larger irrigation projects is located in Kansas, and that it is a complete success.

Near Garden City is a system which includes the great eastern ditch, the south side ditch, and the large reservoir that is six miles long and one and one-half miles wide, all under one management. This reservoir is the largest body of water in Kansas, and measures 30 feet in depth. It is used for the purpose of storing winter water for summer irrigation.

The company owns at Deerfield, about 18 miles west of Garden City, a power plant which is equipped with a 650 horse power gas engine, used for pumping purposes. This gas engine is run with gas produced from residuum oil supplied by the oil fields of southeastern Kansas. The engine is coupled to huge dynamos which supply an electric current for distribution over a transmission line twenty miles long. On this transmission line there are fourteen pumping stations, each one of which has a capacity sufficient to thoroughly irrigate 320 acres of land. The power generated by the motors at these stations is sufficient to give four feet of water to each acre of land under irrigation during the 180 days of the season. This power plant has been a complete success in every way and there are now several thousand acres of very fine crops growing under this irrigation system by pumps.

Other projects of a similar nature are contemplated or are under way in other parts of the state. In some cases the power is supplied by dams across the streams in others by gasoline engines, but in both the purpose is to furnish power at a distance for use of the farmers either in pumping for irrigation purposes, in driving machinery, or in lighting their premises.

Government Whitewash.

The weather conditions of the last few weeks have served to develop insect life in an unusual degree. Remedies are sought for on every hand, and very many are available that are effective. Perhaps the cheapest of these and at the same time one of the most effective is a suitable whitewash, especially if it is prepared in a proper manner to circumvent the mites and lice of the poultry house, and other similar pests. Herewith is given the Government formula for the preparation of the best whitewash that is known to this editor. It is cheap, easily prepared and effective:

Slake one peck of quicklime with boiling water, covering closely as soon as the water is supplied. When it is slaked strain and add one gallon of salt dissolved in hot water, two pounds of powered rice previously boiled to a thin paste, a quarter of a

pound of Spanish whiting, a half pound of clean glue dissolved in warm water. Thoroughly mix these ingredients, cover, and let the mixture set for a few days to ripen. It may be applied with a whitewash brush or made thin enough to be sprayed on with a spray pump. In the latter case give two or even three coats, one after another as soon as dry. Every nest, coop, fence and wood trough should receive the spray on all sides. No lice, mites or vermin can live where this whitewash has been well applied. It should be put on while warm. This will last as long as paint.

Alfalfa on Dry Land.

Mr. J. E. Payne, who is a graduate of the Kansas Agricultural College, and who for the past 14 years has been in charge of the dry farming experiment station of eastern Colorado, advises that he has found numerous cases in which alfalfa is doing well on the uplands of eastern Colorado and western Kansas. One case is quoted where one man in that section has 100 acres of alfalfa which was sown on sandy land two years ago, and is now doing well, although the first seeding was laid on freshly broken sod which has been fined down with a disk harrow. Other fields in the same county are reported which are growing on clay land, and this shows that alfalfa will thrive on either type of soil provided a proper selection of seed has been made and the ground well prepared. In regard to the preparation of the seed bed, Professor Payne says:

"The men who have succeeded best with unirrigated alfalfa have prepared their land well and then seeded it when an abundant supply of moisture was present. Some have sown with success as late as August 1st, upon land which had been plowed early and kept free from weeds until the time of seeding.

"With perfect germination and perfect soil conditions one pound of alfalfa seed will produce enough plants to cover an acre of land but many have recommended 15 to 20 pounds an acre. The amounts sown which have given the best results on dry land have been from three to ten pounds an acre. And it is possible that from 5 to 10 pounds of good seed will give better results than larger quantities, because all extra alfalfa plants not needed are weeds which weaken the plants that survive the competition."

If land were abandoned for depletion of nitrogen and organic matter, nature would restore these by wild legumes, grasses, etc., if there was enough phosphorus; but if land were abandoned for lack of phosphorus it would be permanently dead so far as nature is concerned. The phosphorus factor is the simplest; phosphorus has but to be bought and applied. There is no possible way of applying it through any rotation, and there is no system of farming that will maintain it except where the products of other farms are added. Even a strictly live stock system, with all the crops fed and all the manure saved, will not maintain this element. It is also the cheapest element of plant food that has to be supplied.

Phosphorus works especially in developing the seeds and grain. Nitrogen develops the leaf and stalk, and rank, vigorous growth of these indicate plenty of nitrogen. But it takes the scales to tell the value of a phosphorus application. A few ounces more or less to each hill of corn makes a large difference in the yield per acre, but is beyond the eyes of anybody to measure.

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(No. 8 not shown in illustration)

THE TRUTH ABOUT THE GERMAN POTASH LAW.

Among Germany's most important natural resources there are about seventy mines that furnish the world's supply of potash. As present these mines can supply more potash than the world is using, but not more than the world can use profitably, and not more than the world would be using if farmers could buy potash as readily as they can buy other things. Under these conditions there is a tendency for some of the mines to try to get more than their share of the trade.

In the past the mines have entered into short term arrangements to sell their products through a single company, organized and owned by the mines. Each mine has agreed to furnish a certain fraction of the world's demand to the selling company. This fraction was known as the quota of the mine. As new mines were developed they were usually assigned a fair quota, but occasionally a new mine declined to sell in this way and sought to secure more than its fair share of the potash trade by selling independently and usually at slightly lower prices.

When the last selling agreement expired three or four mines undertook to get contracts to supply the entire American potash trade, which is a little over one-fourth of the total potash trade of the world. Had they succeeded in filling their contracts they would, of course, have had much more than their fair share of business.

Most of the mines are owned by private stock companies, but a few of them are owned by the Prussian and other German States, not by the Royal Family, as has been erroneously stated in some American newspapers. Owing to the action of a few mines in trying to get more than their fair share of the business, the German Government passed a law regulating the fraction or quota of the world's supply that each mine might sell, and providing that each mine should have a share in both the export and the home trade.

The law provides for a commission to enforce the law and lays a trifling tax on all the products of the mines, whether exported or used at home, to pay for the expenses of the commission. About half of this tax is to be used for publicity work to increase the potash trade, and the remainder is to be applied to meet the ordinary expenses of administration. This tax is not greater than the usual state fertilizer taxes in America, which range from ten to fifty cents per ton, without

regard to the value of the fertilizer. The German tax is lower, however, in that it takes into account the amount of plant food in the different grades of potash compounds. The tax ranges from sixteen cents per ton on kainit, containing twelve and one-half per cent potash, to sixty-five cents on muriate of potash. As one-half of this goes back for advertising expenses previously met by the mines, the only additional expense imposed by the new law is the trifling sum of from eight to thirty-three cents per ton. The tax is in no sense an export tax, but is paid on every pound of potash whether used in Germany or sent to other countries. There is in it no discrimination against America or any other country.

When we recall that the ocean freight rate on potash salts may vary as much as one dollar per ton in a single month without any increase in the cost of potash to the consumer, it is at once evident that this trifling tax for administration purposes will have no more to do with potash prices than the state tax on fertilizers in the United States has to do with the selling price of our common fertilizers.

The law, contrary to the general belief, does not require the formation of a selling company or syndicate. Each mine is free to sell its share of export and domestic as it sees fit, but it must not sell for export at a less price than is charged to German buyers. There is certainly nothing in this to give the American farmer who buys potash any cause for alarm. Why, then, has our State Department been urged to protest so vigorously against the passage of this law? Why have we been told that the law means we must pay twenty dollars more per ton for all our potash salts? The law provides that if any mine shall sell more than its assigned fair share it must pay on the excess over its lawful share a much higher tax, ranging from about two dollars and seventy cents to nine teen dollars and a half per ton. This will, of course, serve to restrict the mines to the legal quota of each. But there is no intention of restricting the total production of potash. On the other hand the publicity provisions are intended to increase the consumption.

The American fertilizer companies sought to get control of all the potash coming to America. They failed to do it. They never intended that the farmer should get potash salts direct from them and they insisted that the Germans should sell only to these companies and that the German Kali Works, which is the American Com-

pany representing the potash mines, should cease to sell mixers, dealers and farmers.

The German Kali Works was organized for the purpose of getting potash to the farmers, local dealers and mixers, at fair prices. It is a matter of indifference to them whether they sell it direct to these three classes or whether their offers cause the fertilizer manufacturers to sell it to them at fair prices. The fertilizer manufacturers do not want the farmers to secure potash except in the form of mixed goods containing about 98 pounds of phosphate and filler to 2 pounds of potash salts. Home mixing gives the fertilizer manufacturer nervous chills. It means the farmer may buy raw material, compound his filler-free fertilizer at a marked saving, and, worst of all, he will begin to figure on the money he has been paying out for filler and freight on it, not a penny of which was of any value in increasing his crop.

The American fertilizer manufacturers have claimed for years that they sought uniform prices for potash rather than low prices. The new law gives every buyer the same price. But their strenuous objections prove what many already knew, that the large manufacturer does not want the mixer, local dealer or farmer to buy potash at all except in the form of filler loaded mixtures which place the cost of plant food much higher than it can be sold for in raw materials. * * *

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Just picture a plow that will turn over tame **sod** without kinking—turn under any and every kind of **stubble** without leaving a bit of trash showing—turn under **cornstalks** just as perfectly—one which will turn a furrow **2 inches deep** and cover all tame sod, stubble or corn-

stalks perfectly—or a furrow **8 inches deep** with the same good results. And, **furthermore**, will do all these wonders in **all** soils—sand, clay, waxy bottom, gumbo, stony or gravelly—and leave a perfect furrow with the bottom clean as a whistle.

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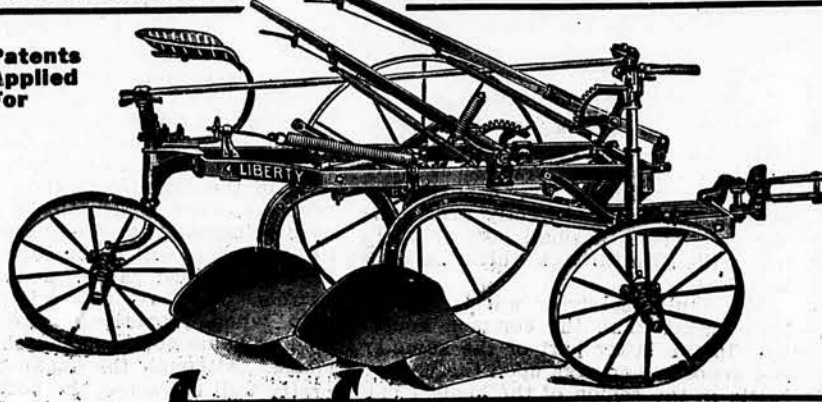
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Now Ready on Our Gang and Sulky Plows

Note the peculiar corkscrew, auger-like twist of the mouldboard. A slice of any thickness spreads out evenly over the surface without crimping and turns clear over, burying all trash completely. No spilling over into the furrow or slopping forward onto the land. Lightest draft and easiest on the horses of any plow made. We control the shape of these mouldboards, and they cannot be had on any other make of plow.

Patents Applied For



ROCK ISLAND IMPLEMENT COMPANY, Kansas City, Mo.

Thousands of Farmers

have written us for the names of dealers handling our line! Hundreds have already bought! Great enthusiasm is being shown all over the country by all who have heard about our wonderful invention. And this is only a warning of what we may expect once our advertising covers the country.

Our Liberty Gang Plow needs no lengthy description. Its ease of operation, easy draft and wonderful durability have already gained a wonderful reputation for it. All who have used it for years side by side with other gang plows say that it's the **Best Gang Plow Ever Made**. And now that it has the Universal (C. T. X.) Bottom it is so far in advance of all other gang plows that it is bound to be practically the only gang plow in demand during the years to come.

Liberty Jr. Sulky Plow Also Equipped

In order that those who want a sulky plow may be able to profit by our great invention, we have equipped our Liberty Jr. Sulky Plows with Rock Island Universal (C. T. X.) Bottoms. The plow itself needs no introduction, as it already is the recognized leader of the Sulky Class.

Our wonderful invention has started to revolutionize the plow business. Our gigantic factory is crammed with orders. And our advertising has only just started to appear. Once it covers the country, we honestly believe that there will not be a sale made anywhere of any kind of a plow not equipped with our modern miracle of mechanics.

Great Money-Making Book FREE!

Write for our new booklet. It's crammed with money-making hints and valuable bits of advice on advanced farming methods. It explains in detail how many farmers have more than doubled their crops, and last, but not least, tells everything we haven't room to tell here about the Rock Island (C. T. X.) Plow Bottom.

Remember, orders are coming in faster and faster every day for our new Liberty Gang and Liberty Jr. Sulky Plows, and it will not be long before the demand will be greater than the supply. So write for free booklet right away, and with it we will send you the name of a dealer near you who handles our new plows, so that you can call and see them before they're all sold out! (19)

A "Wise" Hog Raiser Tells Of Merry War Lye

Just take it from me that this "Merry War" Lye will do to "tie to", when it comes right down to increasing pork profits. I've tried it and I know!

I was born and raised on a farm and lived with the hogs, as you might say. I know 'em clean through and through—one end to the other—from "snoot" to "stern."

For many years I have studied hog habits. I know their ways in sickness and health, and want to tell you Hog Raisers right now—straight from the shoulder—that its your own fault if you let worms and cholera carry off your hogs.

No Excuse For Hog Losses

Yes, sir, I mean just that! There's no excuse nowadays for losing your pork profits, since the discovery of "Merry War" Lye.

Of course it was different in the old days before hog raising was reduced to a science and carried on as a regular business. When I was a boy on the farm, we never knew just what would happen—whether our hogs would bring a big price for ham and bacon or have a "soap kettle" finish.

It was all a matter of "luck"; we just took our chances against worms and cholera. Many a time I have nursed a big drove of hogs along into prime condition ready for market, only to see my piled up profits in flesh and fat go glimmering in a few days from those pesky hog diseases.

What Merry War Lye Does

But now it's different. With the aid of a reliable remedy like "Merry War" Lye, I can snap my fingers at worms, cholera and all other hog troubles.



"I am a Merry War Lye Hog"

I sleep well nights because I know that my big droves are healthy and happy, fat and "sassy" eating well and laying on the firm, juicy flesh.

That's what "Merry War" Lye does for me, and it will do the same for any Hog Raiser who has the "gumption" to try it, as I did. Don't argue—don't think you "know it all"—don't doubt, but get busy and save your hogs.

A Friendly Warning

Just take my advice. Buy a can of "Merry War" Lye, mix a tablespoonful with slop for ten hogs, or one-half can with barrel of swill for larger number. Stir well, and feed night and morning.

In a few days you'll see marked improvements in your "porkers." "Merry War" Lye fixes 'em up right. It cleanses the system, tones the digestive organs, puts sick hogs in prime shape and makes 'em immune to contagious diseases. It both prevents and cures.

At Your Dealer's

Don't accept any "substitute" for "Merry War" Lye. Tell your grocer or druggist, that it is the only safe and specially prepared hog remedy, and that you want "Merry War" and nothing else. It comes in 10c cans, 24 for \$2.00.

If you can't get "Merry War" Lye, write us and we will send you our valuable book on "HOW TO GET THE BIGGEST PROFITS FROM HOG RAISING." Address letter to—E. Myers Lye Co., Dept. 12 St. Louis, Mo.

LIVE STOCK



Percheron Society of America Inaugurates Inspection of Pure Bred Horses.

From June 15, 1910, no imported horses will be accepted for record by the Percheron Society of America until they have been inspected and checked by an authorized representative of the society. Such inspection will include, at the outset, a careful comparison of the horses and their French certificates of breeding, for the purpose of definitely establishing the identity of the horses as described in the French certificates. This will be further checked by requiring all importers to forward the official invoice at the time the certificates are sent in, to enable Secretary Wayne Dinmore to have full information as to the number of horses imported, before issuing American certificates and the custom papers which relieve the importer of paying duty on such imported horses.

By action of the board of directors at a meeting in May, the by-laws were so amended as to permit of the employment of inspectors for the above mentioned purposes. Under the new by-laws covering such inspection, authority is so broadened as to provide for a rigid veterinary inspection for soundness and a general report as to whether the animal is of suitable size, conformation and quality, to be of value in improving American Percheron horses. Horses reported not fit will be refused registration, but any owner may, on suitable showing, be granted a reinspection. Any American breeder may call upon the society for such official inspection, and the society may, at any time, order the inspection of any, or all, American bred horses, before recording the same.

On account of the magnitude of the undertaking, no attempt will be made to put this full plan into force at once, but authority for such work now exists and it will be extended as rapidly as the Percheron breeders of America deem wise and expedient.

At a meeting between representatives of the Percheron Society of America, and officials of the Department of Agriculture, held in Washington, D. C., on June 16, the Department was requested to establish a thorough inspection, both as to identity and soundness, for all imported horses. It was pointed out that such inspection should properly be made at the European port of shipment, as cattle are inspected for disease before being loaded in ships for transfer to the United States. In event such inspection cannot be made there, the Percheron interests urged that it at least be made at port of entry to this country, so that full information as to the horses imported may be at once available to the Percheron Society of America. The Percheron Society further recommended that the Department of Agriculture prevent horses that are markedly unsound, or so inferior as to be unfit for breeding purposes, from being shipped to, or landed in this country. America has room and need for good horses, but the sub-standard kinds should be at once debarred from entry. Part of this work the Department of Agriculture is willing to undertake, and the Percheron Society has assurances that the Department will cooperate to the full extent of its powers, in all work looking to the improvement of the Percheron breed.

Warbles in Cattle.

Warbles or grubs are the larval form of the ox bot-fly or heel-fly. The grubs or warbles are noticed as little lumps or bunches just beneath the skin of the back. Directly over each warble there is a small pore or opening in the skin through which the grub breathes.

The adult heel-fly or warble-fly is a little larger than the common house-fly. In the latter part of the summer she deposits her eggs upon the hair of cattle in the region of the heels. The presence of the flies, among cattle causes much annoyance. The animal

licks the part and the larvae are taken into the mouth.

From the throat or gullet the small larvae bore their way through the tissues until they locate beneath the skin of the back, where they increase in size quite rapidly so that the lumps are large enough to be noticed by the latter part of December or early January. In February or March these larvae or grubs work their way out through the small hole in the skin, fall to the ground, burrow into dirt or litter, pupate, and some weeks later transform into adult flies.

It is estimated that 65 per cent of the cattle in the United States are affected with warbles, and the financial loss by damaged hides is estimated at from fifty to sixty million dollars. Grubby hides are usually "docked" about one-third.

Warbles attack young animals more severely than older cattle. As the adult flies do not travel far, a cattle owner can free his herd pretty well from these pests by treating them at this season of the year. If other cattle in the immediate vicinity are affected, the adult flies will travel far enough to infest neighboring cattle. All cattle owners should unite to destroy this pest.

Treatment should begin as soon as the warbles are noticed upon the animals' backs. Most of the warbles or grubs can be destroyed by putting turpentine, kerosene, crude petroleum or mercurial ointment in or on the opening through the skin directly over the warble. If the opening is very small, it should be enlarged by using a smooth, pointed stick. A machinist's oil can having a slender nozzle furnishes an excellent method of applying the medicine.

By running the cattle through a chute they can be treated quite rapidly. They should be examined in about ten days, and any that escape the first treatment should be destroyed by a second; or better, squeezed out and crushed; or they can be crushed beneath the skin by pinching the lump, or killed by inserting a pointed wire or large blunt-pointed needle.—Dr. N. S. Mayo.

A New Cattle Feed.

Years ago, when the writer visited a number of the earlier sugar beet factories, he was impressed with the vast quantities of pulp which remained after the sugar had been extracted from the beets. This pulp was thrown into a mass in a large rectangular space enclosed by a high earthen wall and which, for lack of a better name, was called a silo. In this silo the pulp was allowed to go through all the processes of decay and was thought to be of little worth, although even in that early day one cattle feeder was attempting to feed it to his stock. As a result of this and other experiments, it was found that this pulp had a real value as a cattle feed, although it seemed to be of more worth to the dairyman than to the beef man. Since that time beet pulp has come to be a recognized article of cattle feed for both the beef and dairy breeds.

The large sugar beet manufacturing plant at Garden City, which was originally erected with a capacity of 600 tons per day, and later enlarged to a thousand ton capacity by the addition of more machinery, is now planning further extension of its manufacturing plant. These plans include the increase of machinery so as to develop a 1,500 ton daily capacity and the building of an auxiliary plant to be used for the purpose of steam drying the beet pulp. This is the first drying plant to be installed for this purpose west of the Mississippi river, and the products, when made, will be sold and used principally for feeding dairy cattle, though it will be no less valuable for feeding beef cattle. It is claimed by those who have tested it that beet pulp when properly handled has a feeding value not far below that of ensilage. Although the sugar has been pretty well extracted, the pulp gives a succulence which is highly valuable in winter feeding. Just what the dried

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Our cable fulfills all requirements of the U. S. Government, and is approved by the highest scientific authorities—your assurance of its merits. Look for the Little National Tag attached to Cable. Fill out the coupon while you think of it, and get this information which may save you so much.

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MAIL THE COUPON BEFORE IT'S TOO LATE

The National Telephone Lightning Arrestor (patent applied for) acts automatically, and is so constructed that rain cannot get into it and thus short-circuit your telephone. Every dealer who handles National Cable is an expert, thoroughly schooled by us, and not a foot of National Cable is ever put up by a man not fully qualified to install it properly. Hence, we avoid the pit falls which bring disaster, where untrained men do the work.

Without obligation to me, kindly send book, and tell me what it would cost to put National Pure Copper Cable on my house and other buildings. (Give dimensions of all buildings).

Name.....
Address.....

pulp will amount to as a cattle ration has not been proved in the western country yet.

Sugar beet raising in and about Garden City is a prominent agricultural feature. The company which operates the manufacturing plant also owns 28,000 acres of land, which is cut up into quarter section and 80 acre tracts and leased to tenants. In this way they have 160 complete farms, the chief products of which are sugar beets and alfalfa. Aside from this land so divided, the company is farming a tract of 1,500 acres in sugar beets. Reports indicate that the crops of all kinds, including the beets, alfalfa and small grains, were never better than they are this year.

Tame Grasses.

I have some land in Sumner county, Kansas, that I want to sow to tame grasses. My object is to build up a soil by putting stock on the farm and pursuing a system of crop rotation. As a soil builder, I would like to sow some of the legumes like alfalfa, red clover or cowpeas, but am afraid to sow alfalfa alone on account of wanting to pasture cattle. I would like to hear from some of the good brothers who have had experience in that part of the state with red clover, English blue grass, Kentucky blue grass, orchard grass or any other grasses that have succeeded in that locality. Any information on tame grasses will be duly appreciated.—C. H. Hubbell, McPherson, Kan.

The columns of the KANSAS FARMER are always open to its readers for communications on practical subjects of this kind. It may be stated here that the Agricultural Experiment Station has found that a combination of bromus inermis with alfalfa has resulted in a most satisfactory growth of both which is believed to furnish pasturage for cattle that is not likely to cause bloat. The alfalfa seemed to thrive better and grow a denser foliage when sown with bromus inermis than it did when sown separately on an adjacent piece of land.

Some years ago, Mr. S. C. Hanna, of Howard, Kan., reported that he had had about fifteen years' experience in pasturing alfalfa with his high priced cattle, and had never yet been troubled with a case of bloat. The reason for this was found in the fact his pastures are made of a combination of grasses and clover, of which alfalfa is only one element. Mr. Hanna certainly had one of the finest pastures that the writer ever saw and it grew so dense and so luxuriantly that it was necessary to take off a hay crop occasionally in order to get the best results although it was pastured continuously. Mr. Hanna's formula for planting a permanent pasture is as follows: Alfalfa, 4 pounds; red clover, 3 pounds; orchard grass, 10 pounds; English blue grass, 10 pounds; and timothy about 1 quart. This is the amount for one acre, and this proportion should be observed for any acreage that is to be seeded.

KANSAS FARMER would like to hear from its readers with their experiences on this important matter.

The Russian Thistle.

Some years ago there was a great cry sent up from all portions of the state about the danger to be anticipated from the Russian thistle, and even now its name carries dread to farmers in the West. During a recent trip into western Kansas, the writer saw considerable quantities of it growing, but learned that the farmers in that locality have ceased to dread it and where it stands thickly on the ground are mowing it for hay. Of course when it is utilized for this purpose it must be cut at just the right season or it has no value.

It is not really a thistle. It is a tumbleweed, a close relation of the lambs-quarters and pigweed, and like them an annual and a prolific producer of seed, 10,000 to 300,000 per plant. The leaves on young plants are about two inches long, slender, and green. As the plant approaches maturity, the leaves fall off and are replaced on the flowering branches by numerous half inch spines; the plant branches, becomes bushy, two feet high and two to six feet in diameter; the outer branches are usually red at maturity. When dry, it breaks off at the ground and is carried hither and thither, far and wide, with every shifting wind, scattering its seed as it goes.

Russian thistle is slightly larger

than clover or alfalfa seed. Unless it has been rubbed off, the seed proper will be found to be capped by a thin covering, which is simply the shrivelled and dried outer portion of the flower. This helps to distribute the seed. The shape of the whole body is conical, color light to dark an inch; length one-twelfth of an inch; height one-twelfth of an inch. Beneath this outer cover is the seed proper, also cone shaped and covered with a nearly transparent membrane, through which the spirally coiled young plant within shows. Moisten and rub off the membrane and see the greenish embryo inside. The broad end of the seed proper is hollowed out more or less. Color of the seed light to dark gray, diameter and height one-sixteenth of an inch.

1. Learn to know the seed and plant. 2. Examine seed carefully before buying, and buy seed free of Dodder and Russian Thistle. Plenty of such seed can be had. 3. Pull up and destroy odd plants that appear in the fields. 4. If infestation is extensive, encourage seeds to germinate, and destroy seedlings; when and how this may be done depends on character of crop on the field. 5. Short rotations, involving clover and well tended cultivated crops, annihilate millions of annual weeds of many kinds.

Bear in mind that to know what to look for, to be prepared to deal with it, and to "nip in the bud" this threatening pest will save farmers hundreds of thousands of dollars.

Scrubs.

One day while visiting a farmer friend who has been a conspicuous success in his business, I was told that he owned a very fine Percheron stallion and was asked if I would be willing to photograph him. To this I readily assented because it is always a real pleasure to photograph good stock of any breed and because it would afford the owner an opportunity to secure a picture of his horse which he had not before had. I prepared the camera and the horse was led out. Then, for the first and only time in my life I wished for an aeroplane by which I could make my getaway. The horse was not a Percheron at all. He was a plug, a scrub, a joke. And the funny thing about it was that the owner didn't realize what this meant to him. Here was a man who had trained himself in the most careful manner. He had always been especially careful in the selection of seeds for planting and had won wealth, position and comfort by his high class methods and yet when it came to breeding stock, he was content to use as a sire an animal that would do more to tear down and destroy in one generation than could be restored in many. It was not ignorance alone which prompted the purchase and use of this stallion. It was cheapness. Instead of paying a fair, living price for a good registered stallion which would have improved the stock of the neighborhood each year and which the farmer was abundantly able to afford, he had deliberately set about to decrease the value of all the horses about him in the most rapid manner possible by buying this inferior stallion because he was "cheap."

If this farmer had applied the same methods which he used in seed selection when he bought his horse he would have been many dollars ahead in the service fees and would have helped to educate his neighbors so that there would have been a constantly increasing demand for good horses, and demand for anything makes the price.

Millet seed is one of the best things that can be fed to chickens, both small and large, it is a healthy food and it gives them exercise to scratch for it.

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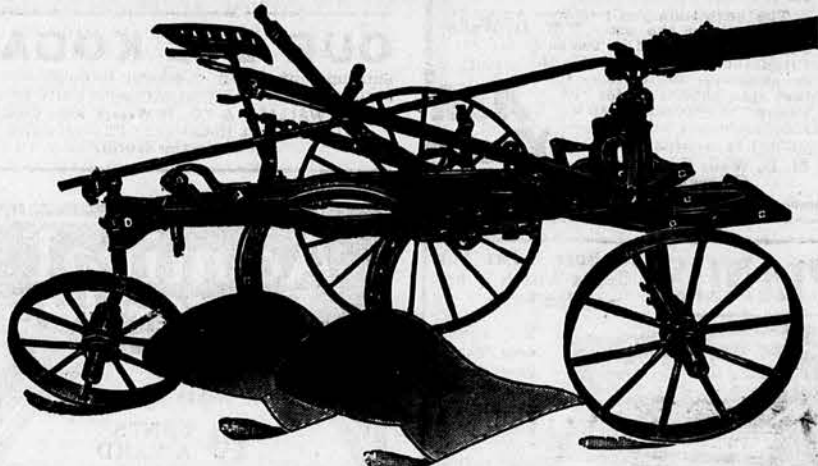
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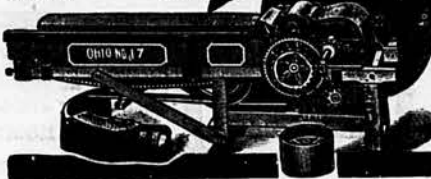
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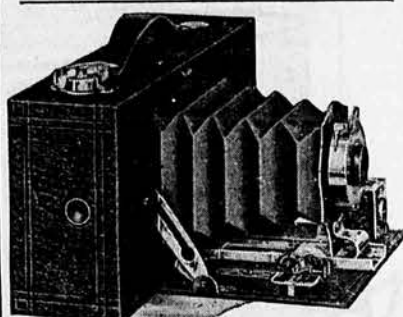
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HOME CIRCLE



The Farm Boy, Out.

Not out of heart, not out of money, not out of spirits, nor quite out of sight, nor yet out of "reasons," (although his father sometimes thinks so) but out, his evenings out.

In some families nothing creates more annoyance than the boy's evening out. But the boy must go out, will go out and in fact ought to go out occasionally if no more often. But with his father (and mother, too, sometimes) nothing is more annoying than the evening out problem. Since the boy's evening out is a crisis that must surely come, parents may well be prepared to receive it, and the better you are prepared, the better it is for all parties concerned. Don't build up barricades with the hopes of preventing the evenings out, for such efforts will not only prove unsuccessful, but perhaps fatal—to the boy. He may go out and declare his freedom. This is not fair for father nor son. If the father will begin right the boy's evening out will not prove a difficult problem, no more than is breaking the young farm colt.

To begin with, give him some encouragement to start with. Give him a good horse and buggy of his own. Don't oblige him to, nor expect him to, use the old family democrat and the work horses for a driving team and outfit. Let him have a new buggy and a nice, high-stepping, well kept horse of his very own.

The boy knows why a new buggy and a fine driving horse is to be preferred, and you would know too if you would only take time to think back to years gone by when you were a boy. And perhaps here is a good opportunity to caution the father against keeping up a continuous roar about "going out so often." Perhaps your boy goes out too often and stays too long, very unlike your record when you were a boy. But speaking of your good record will not make a record for your boy.

Some boys have a way of going out and leaving all the chores for father. This the "old man" can make out with (at least occasionally), but when it occurs too often something must be done to put an end to it. This fault I think could be remedied by letting the boy have a goodly share of the farm stock himself, under the condition that he help care for them; this will give him an interest in the evening chores. And then, do not make the day's work too long. Take time to live; ten or twelve hours to the day is sufficient; don't begin the evening's chores at nine o'clock and expect the boy to assist with them and at the same time get himself ready and arrive at some appointed place at eight o'clock.

"But what about the mornin' chores," the father says, "the boy don't get up until noon, then he is so cross we don't dare speak to him." Yes, of course the boy oftentimes oversleeps himself after a strenuous night out, and gets up cross and irritable. But when he oversleeps why not awaken him? And if he is cross and out of sorts when he gets up in the morning after an evening out, do not think he is mad at anything in particular, nor do not let him know you think he is out of sorts. His real ailment is that he made his evening's pleasure too long; had he come home in good time he might have been happy. But he lost interest in his pleasure soon after he bade his best girl goodbye. Believe me, he was cross long before he reached home. So do not be afraid to talk to him, for in reality he is not mad, he just feels provoked with himself, and the less you notice it the better he will feel and the sooner he will "come to" again. So you see the boy's evening

out is not so bad after all. And if you just learn how to deal with him and his evening out you will soon learn to enjoy seeing the boy take his outing. And is he not worth his horse and buggy? Even if there are one-half dozen boys to "horse and buggy" and "evening out," aren't they worth it?

And when the automobile fad becomes more firmly established among the farmers, each boy will have to have his own auto, and a neat building away from the barn will bear the words, "The Elmdale Farm Garage;" inside will be two or three dandy "whiz wagons."—Miss F. Lincoln Fields, Burlington, Kan.

A Practical Garment for the Small Maiden.

8748. Girl's one piece over blouse dress to be worn with or without a guimpe. In planning for a dress to wear to school during warm weather or during the day's heat in vacation time, a simple little design such as is here shown will at once appeal to every mother. The garment is cut



one piece and the fullness is held by a belt. The neck is cut out square and finished with a shaped band that may be omitted. The sleeves too may be made without the band, so that the sewing can be greatly simplified. Chambray, gingham, linen or percale may be used for this model. The pattern is cut in 4 sizes: 2, 4, 6, and 8 years. It requires 2½ yards of 30 inch material for the 6 year size. A pattern of this illustration mailed to any address on receipt of 10 cents in stamps or silver.

Do you see where you missed it by not having good seed this spring? Poor seed is expensive in the worst way because you lose on the value of the seed, on the necessity of replanting which costs more seed and doubles the labor and on the lack of what the crop might have been if good seed had been planted in the first place. While you think about it, look up the matter of buying a good fanning mill and get or make a seed tester. Don't get caught twice.

Wyoming is said to produce a potato crop that averages 200 bushels per acre as against a general average of only 96 bushels for the country at large. Sounds like there might be something in these dry land and irrigation farm ideas after all.

The Agricultural College as usual will send out a good many speakers during the summer for various picnics, farmers' institutes, granges, anti-horse thief societies, etc. The extension department will have charge of the sending out of these speakers and it also has charge of the sending of judges for stock, grain, fruits, etc., for county fairs.

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DAIRY



The City Milk Supply.

Denmark stands preeminent as the dairy country of the world and her successful methods may be studied to advantage by dairymen of this country.

Professor Boeggild, of Denmark, who is touring this country and who ranks high as a dairy authority in his home land, states that improvements in methods of producing and handling milk for the city supply of Copenhagen was begun more than 30 years ago and that this city now takes the first rank in both the methods and quality of its milk supply. In producing the milk he calls attention to the fact that no silage is used in Denmark because corn cannot be raised as a certain crop. Roots are used instead for supplying winter succulence. Cows are kept in stables most of the time and the most intensive methods practiced. In handling milk for city trade the following practice is observed:

First, the milk is drawn from clean cows and quickly cooled with ice. Second, a veterinary inspection of the cows is made every two weeks to insure their healthful condition. Third, the rapid transportation of milk into the city is assured by improving the shipping facilities. Fourth, there is direct and quick distribution to consumers after the milk reaches the city. Fifth, the use of glass bottles which may be sealed and made perfectly sanitary has been introduced, and sixth, the observance of standards of quality for various purposes is compelled by law.

The production of milk for feeding infants and children has reached a high state of development, milk of various food values being mixed by the companies and distributed in sealed bottles. Skim-milk is sold at half price to poor people. All milk wagons are carefully inspected and ice is used to keep the milk cool until it is delivered. Most of the milk of Copenhagen is supplied by large companies, some of which handle nearly 50,000,000 pounds of milk annually.

Pasteurization of milk is advised by Dr. Boeggild where the raw milk, known to be from healthy cows, can not be secured. Thorough pasteurization of all skim-milk which is returned to farms has been followed for several years to prevent the spread of tuberculosis in cattle. Pasteurized milk must be used, since it is not possible to get enough absolutely pure milk without pasteurization to supply the needs of large cities. While some people prefer unpasteurized milk, its general use for many years in Denmark demonstrates its value for both infants and adults.

Grading Up a Dairy Herd.

Over in Illinois, near Bloomington, is to be found an example of what intensive methods can do for a man and his farm. Six years ago this farmer started to grade up a small herd of common cows by the purchase of a \$100 pure bred Guernsey bull. This was not an extraordinary price to pay for a bull, but it served for a starter. The results were so promising that this bull was disposed of and a \$200 one bought to take his place. Now what are the results? Remember that the start was made with very common cows and the influence of the bull is the one element that brought results. After six years this farmer has what is practically a pure bred herd of 10 Guernsey cows, from which he has received 54,680 pounds of milk, or an average of 5,468 pounds per cow. The owner has only 40 acres of land and the careful methods which he pursued in his breeding operations have been applied to his farm, with the result that it produced an average of \$48.57 per acre last year. The manure from his cow stables is spread directly on the fields and thus all waste is saved and every ounce of value is utilized by the land. Last season his corn averaged 98 1/2 bushels per acre and he received \$125 per head for the milk sold from his cows. In the contests in which he

has entered his samples of milk have scored as high as 95 1/2 and this score was made in the National Dairy Show. His care and cleanliness in the production of milk, the uniformity of its quality and the fact that his herd is known to be absolutely free from tuberculosis have enabled him to command a premium over the current market price, which is simply a just reward for the extra pains taken. Now all this success means lots of care and work and some might ask if it is worth while. Of course the money is an incentive, but a real liking for the business is a stronger element of success. The owner states that he likes the business better since he got into a good class of cattle. He is entirely satisfied with the results of his work in grading up and, by saving the best of his heifer calves, he has kept his herd at a high standard of usefulness at the minimum of cost, while the quality of the bull calves enables him to realize a nice profit on them over and above what they would bring as veals.

Heifer Breaks Record in Dairy Cow Contest.

The phenomenal production of 88,802 pounds of butter fat in 30 days was the remarkable record made by a 2-year-old heifer, edar Lawn De-Kol Johanna 113565, in the Wisconsin dairy cow competition during the month of May. This remarkable production is over 11 pounds higher than the present 30-day record for such a heifer. This heifer was born February 13, 1908, and dropped her first calf April 23, 1910. She produced 20,697 pounds on an official test May 6-13. A retest confirmed the first test.

This heifer has a distinguished ancestry on both her dam's and sire's sides. Her sire, Sir Johanna DeKol, has 27 daughters in the advanced register of the Holstein-Friesian Association, and three sons with A. O. R. daughters, and her dam, Mercedes Athenia Inka DeKol 72761 produced 20,317 pounds of fat on an official 7-day test when four years old.

The wonderful record made by this heifer during the past month shows the value of the right kind of breeding for dairy production. It is wholly inconceivable that she could have produced at the rate of over three pounds of butter a day on the average for the month, were it not for the accumulated effect of breeding strictly along dairy lines that lies back of her.

The results for the seventh month of the competition show that 217 cows which were entered for the entire month produced on the average 1150.7 pounds of milk and 46,840 pounds of fat. The production of butter fat of the cows for the month ranged from 17,869 to 88,802 pounds. One hundred and nine cows produced, or received credit for a production of more than 50 pounds of butter fat for the month. Over 260 cows are now entered in the contest. Entries close Nov. 1, 1910, and any farmer may enter his cows until that time. Circular of Information No. 9 of the University of Wisconsin Experiment Station at Madison, gives full details regarding the competition.

Why Cream Tests Vary.

Perhaps nothing connected with the dairy business has caused so much

dissatisfaction among patrons as the variation in cream tests.

Dr. Babb, city milk inspector of Topeka, stated that he had been appealed to within the last few days by a farmer who was dissatisfied with the test made at a certain large institution to which he had been selling his milk, and that this case is only typical of many that come to his notice.

The doctor made a test of the samples submitted and found that the creamery tests were correct. He then sought out the reasons for the variation in the creamery tests and soon convinced the farmer that the fault was entirely his own and that he could easily correct it.

Of course errors are made in making these tests, but such errors are of such character and occur so irregularly that they are sure to attract attention at once as they generally come through inaccuracy in taking the samples.

However, there are variations which are due to other causes, and Prof. C. H. Eckles, of the Missouri Agricultural College, has pointed to some of them as being due to the variations in the speed of the separator which results in the skimming of a richer or a poorer cream. Variation in the temperature of the milk to be separated, which has much the same result, as some separators will not handle milk of low temperature as well as that which still holds the animal heat. The rate at which the milk flows into the separator has its influence, as does the amount of water or skim-milk which is used to flush out the machine with. The richness of the milk separated affects the richness but not the quality of the cream. The richness of milk depends on heredity in the cow and cannot be changed materially or permanently by feed or care.

The adjustment of the cream screw and other factors of error may be found, but by the use of the ordinary Babcock testing machine and by measuring the samples of cream into the test bottle with the same pipette that is used for measuring milk any intelligent farmer can make a satisfactory test of his cream for comparison with that of the cream buyer.

Five years ago there were not over twenty silos in the state of Kansas. Last year that number were erected in Shawnee county and two or three in Riley county. The Kansas Agricultural College has been advocating the use of silos for more than twenty years, but the farmers were not willing to follow the advice. This year, however, the college people are getting returns for the twenty years of "preaching," as probably one hundred stave silos have been sold in the state this spring and the extension department of the Agricultural College will superintend the construction of more than thirty concrete silos, building this form of silo in the counties of Leavenworth, Jefferson, Atchison, Phillips, Sumner, Lyon, Johnson, Cherokee and Butler.

PROTECT YOUR COWS FROM FLIES.

Put on a



The increase in the milk more than pays the cost of sheet

Heavy Drill, Price \$2.25 each.
Heavy Burlap, Price \$1.25 each.
If your dealer does not have them, send to us direct. We make all kinds of covers for hay wagons, etc.
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Is emphatically the BEST and the only one for YOU to buy.

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The U. S. defeated all other separators at Seattle on these five essential points and

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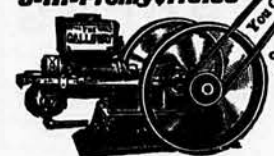


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Only \$33.50 UP "BATH IN OIL"

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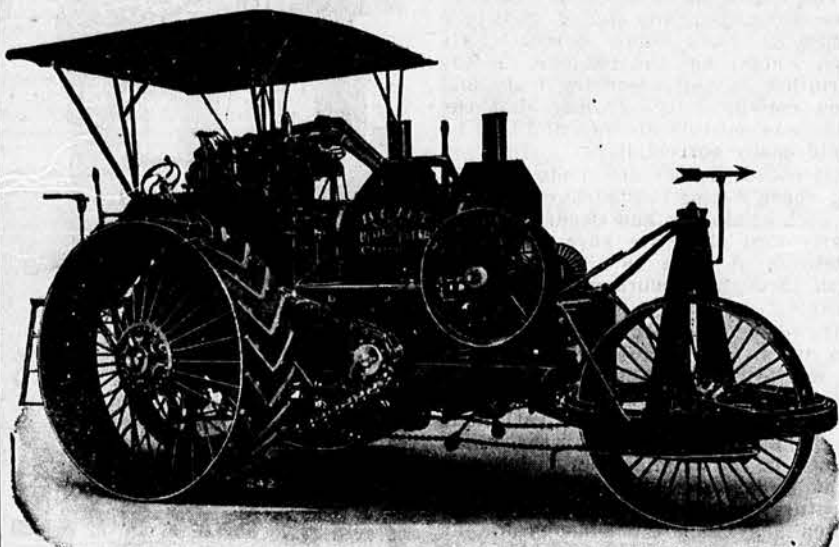
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FROM OUR READERS

The Kansas Farmer invites letters from its readers upon subjects concerning the welfare and advancement of the farm and home. Practical letters from practical men are desired, and letters from the ladies and young folks are especially appreciated. Omit partisan politics and give your experience on the farm and in the home for the benefit of other farmers and their families. A prize will be awarded each week to the writer of the best letter and in addition a series of three prizes will be awarded each month for the three best letters. Write on one side of the paper only, and make the letters short and to the point. Facts, ideas and experiences are wanted. We will do the editing.

Agriculture—a Woman's View.

Just at the present time the farmer, his profession, and the farm are receiving the attention of the professional as well as the common man. And it seems that there could not be a more proper time than the present for this state-wide interest in agricultural pursuits.

Giving agriculture the name "profession," and the basic "science" (and it was not known as such years ago) leaves little room for the farmer who trusts to luck. The successful farmer of today has come to realize that agriculture calls for the very highest kind of ability. That the man who fails in all other business adventures, through lack of perseverance, cannot take up farming and make an astonishing success of it. But that it requires tact and familiar knowledge, coupled with readiness of performance to be a successful farmer. The farmer of today must be master of his profession the same as the physician or banker. The farmer will not tolerate the veterinarian who is not master of his profession; then why so many un-professional farmers? The rudiments of farming can and should be taught in schools and colleges, but, like all other professions, the youth cannot be taught how to run a farm; he can only be taught how to do the things necessary to farming. Experience, only, teaches a man how to farm.

But you cannot make a farmer out of a natural born merchant, no more than you can make a clergyman out of a blacksmith. But when a man chooses agriculture for his occupation, let him educate himself to be master of his profession.

The scientific farmer finds the climate adapted to his line of farming; the soil and the weather he will see to himself, also the management of his live stock, plowing, seeding, etc. When the conditions of the weather are unfavorable, instead of complaining of the weather, the scientific farmer goes right ahead and makes a favorable season. When the conditions of the soil do not meet his requirements, he builds up the fertility of his farm. Then he selects his seed with care, plants, cultivates, harvests and stores his crop with scientific methods. He also selects and adheres to a choice, pure breed of stock and fowls and carefully grades them up each year. The successful farmer also experiments for himself. We do not wish to undervalue the Experiment Station, but every farmer must make an experiment station of his own farm. Knowing how and doing a thing are two different propositions. A spring like the one just passed was a blue one for some farmers, but to others not at all discouraging. Because the last mentioned farmers were master of their profession. Farming too much land and owning more stock than he can properly and profitably care for is a common mistake too many farmers make. In his attempt to care for it all, he fails to do justice to either crop or stock.

Farming is one of the most favorable professions there is. Life in the country is quieting and natural. What a great thing to be way out amid field and streams, looking upon the great clergyman Nature. Where your lone self, with possibly a companion are the whole audience, small, but attentive. And as often as you go there you meet the same pleasant faced rector, Nature, but with always a new text to discourse from. And when you sit with your family of an evening you have something better than humans to discuss, you have the treasures of nature to discourse upon.

The scientific farmer should live for a purpose. This seems to be something the successful agriculturists have forgotten, at least a great number of them.

The farmer lives too fast; he does not take time to enjoy the wealth of beauty he is surrounded with. He does not make his home and surrounding as comfortable and convenient as he might. After he has

reached prosperity, he rushes madly on, wildly pursuing the mighty dollar. I know not what more the farmer would want than to live comfortably on what he and his family have worked so hard to attain. So I cannot see what more he desires, and why he does not feel inclined to give himself and family a comfortable modern house with all the conveniences attainable; a grass carpeted and posy decked yard and ample time for rest and recreation, when he is financially able to do so.

Happy and wise is the farmer and his wife, who, knowing their capacity, undertake just enough to pleasantly and profitably occupy hands, time and thought.

Plan for Building Ice House.

Will you please send me a plan for building an ice house. I think I saw one in your paper some time ago, but do not have it at hand.—J. J. Siebert, Pretty Prairie, Kan.

An article on building an ice house was published in KANSAS FARMER, issue of August 7, 1909, and signed by Prof. J. C. Kendall of the department of dairy husbandry of the Kansas State Agricultural College. A copy of this paper has been sent you. In addition to what the article contains it might be well to emphasize two points that are essential in the preservation of ice during the summer months. One of these is drainage and the other is insulation. The ice house should be so constructed that the floor will be covered with sawdust or some other insulating material. The walls must be double and packed with sawdust between, and the ice, when put in place, must be thoroughly covered with sawdust. There should be a ventilating shaft of some sort run up in the middle of the ice house but so constructed that no warm air can be admitted.

The drain can be made in various ways. Frequently this is done by digging a shallow well beneath the ice house and connecting it with a pump outside. The well is covered with timbers which will support the ice, but which will prevent any admission of warm air or a leakage of sawdust. The drain may be made by connecting this shallow well with another one outside the building in such manner that the connecting pipe shall be under water at both ends or the outer end of the connecting pipe may be fitted with a trap and allowed to overflow. This question of drainage is very important and no water must be allowed to stand on the floor of the ice house.

Chinch Bug Extermination.

I write for information. Is there a successful chinch bug exterminator? If so, kindly let us know immediately what it is and how to get it.—C. C. Zimmerman, Ingersol, Okla.

There is no chinch bug exterminator on the market that has proved effective so far as we know. Any one of a number of different sprays will kill chinch bugs, but the cost and other limitations as to their use prevent their general adoption.

A number of years ago Chancellor Snow of the State University sent out great quantities of chinch bugs that were infected with a fungus disease which had the quality of spreading rapidly among other bugs when distributed among them. This disease was spread generally throughout the state, and has seemed to relieve the entire territory of the chinch bug pest for a number of years. The bugs have reappeared in the state, however, and numerous inquiries are received from farmers who want information as to how to combat them.

In the front page of the KANSAS FARMER, issue of June 11, appears an article by Prof. T. J. Headlee, of the State Agricultural College, which is well worth reading. Prof. J. S. Hunter, of the entomological department of the State University at Lawrence, is sending out diseased bugs to applicants, and both the University and the Agricultural College are doing all in their power to aid the farmer.

APIMARY Readers Market

KANSAS FARMER invites correspondence upon subjects connected with bee culture, and is prepared to answer questions in this column. Address all letters and inquiries to J. C. Frank, Dodge City, Kan.

Classified Advertising 3 Cents a Word

A man who knows "all about bees," and does not believe that anything more can be gained by reading bee journals, books on bees, etc., will soon be far behind the age. Yet as what is written in the journals and books (ours included) is not always correct, every beekeeper should try to sift the grain from the chaff.

Cleaning and casing honey must be done in a well-lighted place, and a large bench or table provided for it. The shipping cases to receive the honey should be placed so as to face the packer, and should be arranged so no propolis from scraping will fly into them. It is desirable to have several cases for each grade on the bench, so that honey of the same shade and finish may go into the same case. A definite place should always be used for each grade to avoid errors in casing.

Foul broody colonies must not be treated when there is any inclination of the bees to rob.

Toads are enemies of bees. They may be avoided by using hive stands 4 to 6 inches off the ground.

Alfalfa blooms about the 15th of June and from that time on for a month is when most of the swarming occurs.

When the hive that swarms has a super on, it should be taken off and placed over the new swarm on the old stand.

Bees cannot carry on their wonderful work without water. If they have not access to natural sources in the vicinity of the apiary, water should be given to them. It is neither necessary nor desirable to add salt. A vessel of water with corks floating in it on which the bees may alight; a jar of water inverted on a board or a dish of water with pieces of cotton rags in it, through which the bees may suck up what they require, will serve the purpose. The watering place should be in a sheltered place, sunny spot. Bees will often resort to dirty and stagnant water, rather than take clean but colder water from an artificial source.

Should there be any difficulty in locating the hive from which a swarm has issued, take from the cluster a handful of bees, put them into a small box, and dredge them out upon a board or newspapers. If a watch be kept upon the hives, the bees that have been floured will be seen returning to the hive from which they issued with the swarm.

A good hive cover is one of the first things to consider in a bee hive. A good cover is one that is simple, and has the least tendency to warp, one that is always water proof, and is thick enough to be safe in the hottest summer weather, and it is also a great convenience in moving bees, and empty hives if the covers are flat, so as to admit setting one on top of another. Such a cover we used to get with our hives, but in the last few years the manufacturers have sent out all kinds of lighter covers, that warp and can hardly be nailed to stay together, and keep out rain and robber bees. Most beekeepers have expressed a desire to have the old style flat cover again, but are told by the manufacturer that the wide lumber was too high in price. That may be the case, but the writer considers a good cover cheap at \$1.00, while a poor one is not worth carrying home. Of all the hive covers that I have now and have had in use, embracing over twenty different forms and styles, only those are near perfect that have a top without a joint, one that cannot shrink, warp and split and which laps over the sides and ends of the hive.

This cover is made as follows: The outer cover is flat on top, covered with galvanized iron, with a substantial dove-tailed 2 1/4 inch rim that drops over the hive and therefore effectively keeps out driving rain or snow. The cover is of 1/4-inch stuff.

Two 3/4-inch cleats are nailed inside of the cover against the ends, making an air-space between inner and outer cover, and keeping the bees comfortable in summer and winter. These cleats cause the entire weight of the outer cover to rest on the ends of the inner cover, thus securing a tight fit of the latter at all times, and keeping it from warping. It is best to place several folds of paper under the galvanized iron. The inner cover is a regular bee-escape board with the escape removed, and the central hole covered with a block or section.

If you are tired of the flimsy bottom boards that are sent out by a number of manufacturers, that hardly last long enough to pay for the paint they take, or if you have had mishaps with them in moving bees, etc., here is your remedy. Order all your bottom boards made out of 1/4 inch lumber.

Leave no comb or bits of honey around where robbers can get it; otherwise the bees may interrupt you from your work.

Comb foundation is used to secure straight combs, to save the bees' time in wax secretion, which means to the beekeeper more honey. And it is also to avoid having an excess of drone comb.

There is a strong tendency towards a shallower hive, many prominent beekeepers are already using them, and claiming they are a great advantage over the deeper hives. The writer, however, after giving them a trial in Illinois and also in this state, has discarded them.

In buying a smoker it is very important to get a good one, as a poor smoker costs by far the most in the end, in time, vexation and getting stung.

Don't keep bees unless you mean to give them the proper care and attention. If you can't do that you had better leave some one else keep the bees and buy your honey from him.

The honey extractor saves the bees much time in comb building, and thus the beekeeper can secure more honey.

Improve your bees by always rearing queens and increasing from colonies that have gathered the most honey.

It is best to have an apiary in a place that is somewhat protected from the north wind in winter. And for convenience in working it is best to have the colonies all in rows far enough apart to allow a wheelbarrow between the rows. It is also best to face the entrance of the hive to the east.

Honey will nearly always granulate at the approach of winter, or grain like sugar, and when in this state it does not sell as well as when it is in the liquid form. It can be liquified by placing the can in hot water for several hours, and stirring as soon as the honey softens up some. Heating honey too much often injure the color and flavor.

Beekeeping is not an occupation in which one can easily become wealthy, but it can be depended upon to furnish a comfortable living, and perhaps enable a man to lay up a few thousand. Fortunately, however, the professional man's happiness bears little relation to the size of his fortune; and the man with the hum of the bees over his head finds happiness deeper and sweeter than ever comes to the merchant prince with his cares and his thousands.

It is almost impossible to prevent swarming when producing comb honey.

Never extract honey before at least two-thirds of the comb is sealed or capped over. Otherwise the honey is not ripe enough and will ferment.

Advertising "bargain counter." Thousands of people have surplus items or stock for sale—limited in amount or numbers hardly enough to justify extensive display advertising. Thousands of other people want to buy these same things. These intending buyers read the classified "ads"—looking for bargains. The "ads" are easy to find and easy to read. Your advertisement here reaches a quarter million readers for 3 cents per word, for one, two or three insertions. Four or more insertions, the rate is 2 1/2 cents per word. No "ads" taken for less than 30 cents. All "ads" set in uniform style, no display. Initials and numbers count as words. Address counted. Terms always cash with order. Use these classified columns for paying results.

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WANTED—GOOD RELIABLE MEN TO sell nursery stock. We have a splendid proposition to offer. Write today. James Truitt & Sons, Nurserymen, Chanute, Kan.

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FARM LOANS MADE IN ANY AMOUNT from \$500 up at lowest rates and on most favorable terms. Betser Realty & Loan Co., Columbian Bldg., Topeka, Kansas.

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Limestone soil, good house, barn, three miles town, young orchard, everlasting water, 40 a. tame grass, a good home, \$7,200. Terms, 440 acre stock farm, improved, well located, limestone land, only \$11,000. Terms.
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JUST LIKE STEALING to take this beautiful half section in Cowley County, only 8 miles from a good R. R. town, in a fine community, school, church and stores, only 1/2 mile; free phone, rural route, 5-room house, cistern, good stable, well finished water in the state, pond, two orchards, 100 acres cultivation, bal. splendid bluestem pasture, can all be tilled but 20 a. level, upland country farm, smooth and level; soil is a deep black limestone loam, average over 40 bu. of corn per a. last year; grows alfalfa perfectly; only \$30 per a. for a short time; you'll have to hurry, this won't keep; \$5,000 cash, balance back; talk fast; it's money for you. **SHARP REALTY CO., Turner Building, Wichita, Kansas**

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Write us, we will give you good information. **Moffman's Compiled List Report, 323 Sedgwick Block, Wichita, Kansas.**

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\$3,500 stock of general merchandise. Owner wants to trade for land. Two-story brick and stone building, Laharpe owner wants to exchange for land. Fine 120 acres for sale. Owner will take dwelling as part pay. Write for full descriptions. We can match you on any good deal. We can match you on any good deal. **MANSFIELD LAND CO., Ottawa, Kansas**

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312 a., half under cult., 170 a. pasture, 20 a. alfalfa, 8 room house, barn for 14 horses, large mow and granary, 3 mi. from R. R. town. Price \$17,000. **J. R. KOHLER, Herington, Kansas**

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Buy this 735 a. farm and double your money in 2 yrs., lays 5 mi. from Kansas line in Okla., land no better on Kansas side selling for \$40 to \$50 per a., 2 sets of improvements and schoolhouse on farm, 150 a. in cult., bal. meadow and pasture, everlasting water, good shade, nearly all smooth, 8 mi. from R. R. town, have tel. and R. F. D. This tract just put on the market and will sell quick. You will have to hurry. \$22 per acre. **THE BOWMAN REALTY COMPANY, Coffeyville, Kansas**

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Four mi. from Meade, nearly all smooth, wheat, corn, and all kinds of grain land. Owner has raised 50 bu. oats, 50 bu. barley, 30 bu. wheat, 35 bu. kafir corn and 55 bu. corn per a. on said land. Alfalfa can be raised successfully by proper cultivation, 1 mi. to R. R. station and elevator. At present the land is operated as one farm, but could be conveniently cut up into three or four farms. Titles are all good, no incumbrances, good terms can be given if desired. There is about \$6,000 worth of stock; all will go with the place if sold soon, at \$25 per a. **320 a., 1 mi. from county seat, 280 a. perfect and smooth, balance good pasture land. Price \$15 per a. 160 a., 1/2 mi. from Meade, 5 flowing wells, 65 a. in alfalfa, some timber, fair improvements, in the heart of the artesian valley. Price \$65 per a. HULBERT & BLACK, Meade, Kansas**

960 ACRES of bottom land, suitable for alfalfa, now producing the finest quality of wild hay. Price \$22.50 per acre. Good terms. Will sell part or all or will trade for land in eastern Kansas. **RAY JACKSON, Syracuse, Kansas**

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400 farms, 160 to 640 acres, improved and unimproved, at \$12.50 to \$25 per a., easy terms. 320 a. 7 mi. Meade, in German settlement, 300 a. fine tillable land, 160 a. cult., price \$6,400. Experienced salesman wanted. **CHAS. N. PAYNE, Hutchinson and Meade, Kansas**

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In Chautauque Co., Kan., 2040 acres, good improvements, good grass, plenty of living water, only two miles from railroad station. Will sell at a bargain or take some trade. **LONG BROTHERS, Fredonia, Kansas**

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\$15 lands near Cheyenne, grows crops equal to \$100 lands anywhere. Don't drown out or dry out—have rain enough. Finest climate and water. Mans free. **HARTUNG LAND COMPANY, Cheyenne, Wyoming**

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Grover district, famous Crow Creek Valley; three years ago practically unknown except to the cattlemen, who recognized it as the best range country in U. S. Luxuriant grass and thousands of acres natural hay meadows. Rapidly developing into fine farming country. Any sized tract in relinquishments deeded, dry or irrigated land, \$2 to \$45 acre. G. A. HILL, Berthoud, Colo.

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In southwestern Colorado, a new country that is attracting much attention from the homeseeker and investor. Lands with good water rights, \$30 to \$100 per acre. These prices will undoubtedly double soon, and now is the time to buy. Write for state map, and handsome booklet full of valuable information. BOZMAN REALTY CO., Cortez, Colorado.

BARGAINS IN IRRIGATED LANDS In the famous San Luis Valley. Good water rights go with the lands. 320 a., 4 mi. from Alamosa. Good improvements, grain, alfalfa and hay. Two good artesian wells. Fine farm. Price \$55 per a., 320 a. improved. Close to school. Fine soil, grows grain, alfalfa and potatoes. Great bargain at \$35 per a. 160 a. improved. Hay, grain and pasture, near school. \$35 per a. 320 a. partly improved, all fenced, rich soil. Splendid snap at \$25 per a. For further description write

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I own 40,000 acres of choice lands in Washington and Yuma counties, and am offering both improved and low lands at prices far below all others and on terms to suit all purchasers. Monthly payments if desired. 160 and 320 acre relinquishments adjoining lands offered for sale. Best of wheat, oats, cane, corn, potatoes and alfalfa lands. I refund railroad fare and hotel bills to those who purchase from me. All lands are level, smooth and rich farm lands. NONE better. COME NOW and buy homes and get the free ride. Why pay big commission when you can buy direct from the owner? Write for maps, plats, price lists and explanations and proofs to

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AND FREE WATER RIGHTS IN NORTHWESTERN COLORADO

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In the famous San Luis Valley. Land from \$40 to \$125. Crops abundant. Unexcelled water rights. We live here, are old ranchers here, and own land here. Write for handsome illustrated booklet, mailed free. DWIGHT G. GOVE, Monte Vista, Colo.

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640 ACRES fenced and cross-fenced, 12 miles of Denver, three miles of Parker, Colo., well grassed, has living water sufficient to water 200 head of stock every day in the year. \$12 per acre, half cash, balance in one and two years at 6 per cent. Several other bargains just as good. Write A. J. SIMONSON, 214 Cooper Bldg., Denver, Colorado.

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to what we have to say in regard to our business. We have a large list of the best lands in Morgan County. Should you desire a good irrigated farm, good dry land or a homestead, communicate with us or come and give us an opportunity to show you what we have.

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The famous fruit district of the United States. Fruit lands will pay an average of 20 per cent on the capital invested. Write for free descriptive booklet.

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There are only a few left so you must act quickly. Also cheap deeded lands, including both stock ranches and farm lands and homestead relinquishments for \$150 and upwards. Write for descriptive circular, mailed free upon request.

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Lands where big crops of potatoes, alfalfa, peas, etc., grow to perfection. Reasonable prices; good terms. Write for illustrated literature mailed free.

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137 1/2-ACRE IRRIGATED FARM, all alfalfa; fenced with 48-inch woven wire, lots and pasture same material. Large barn, six-room house, hog house and out-buildings. Water rights unsurpassed. A bargain.

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120 acres, one mile from town, all bottom land, no overflood, alfalfa land. Good improvements. Send for photo.

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160 acres only 4 1/2 miles from Benkelman, \$15 an acre, if sold at once. Has about 100 acres good corn land, and about 80 in cultivation. Telephone and rural delivery lines are right there; school 1 mile, one-half down, balance at 8 per cent. Other farms.

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CARPENTER, PLUMMER & MURPHY, Morrill, Nebraska

THE STRAY LIST

Nemaha County, E. S. Randall, Co. Clerk. HORSE—One bay horse, scar on neck, value \$55; taken up by Cooper Bros., May 24, 1910.

MARE—1 sorrel mare, right hind foot and leg white, brand H on left hip, small white in face, value \$70; taken up by Cooper Bros., Gillman twp., May 24, 1910.

Washington Co.—J. A. Maxwell, Co. Clerk. HOGS—Taken up on the premises of Henderson Long in Mill Creek township about February 15, 1910, 2 black barrows unmarked, averaging about 100 pounds in weight and valued at \$17.

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LOWER PECOS VALLEY IRRIGATED LANDS

Pay 50 to 200 Per Cent Net Annual Income in Alfalfa and Fruits.

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We also have a number of section tracts of arable land in the valley, back of the canal systems which we can sell at from \$6 to \$9 per acre on easy terms. Ask for Arno or Zimmerman descriptive folders. Address

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Herd Headers and Range Bulls. Many of them by Champion Ito.

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500 HEAD IN HERD.

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YOUNG HEREFORD BULLS.

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SHORTHORN CATTLE

SCOTCH SHORTHORNS

A few choice helpers for sale, nicely bred and good individuals, priced reasonable. Write or come and see my herd.

C. H. WHITE, Burlington, Kansas

TENNEHOLM SHORTHORNS.

Have on hand a few young red bulls ready for service that are out of splendid milking dams and have good beef form. No better breeding could be wished. Can spare a few females. Prices moderate.

E. S. MYERS, Chanute, Kansas

FOR SALE.

Five extra good Scotch and Scotch topped bulls, 10 months old. Roans and reds, sired by Victor Archer and Forest Knight by Gallant Knight, Friced right.

STEWART & DOWNS, Hutchinson, Kansas

Center Grove Stock Farm

Scotch Shorthorn cattle and 20 bred sows and a few good spring boars of large type Poland China hogs. Write me what you want. No trouble to answer letters. Bell 'Phone.

J. W. PELPHREY & SON, Route 6, Chanute, Kansas

SCOTCH HERD BULL FOR SALE.

The Cruickshank Clipper bull, Scottish Archer 23319, sired by Victor Archer 23310 and out of Imp. Noamis Ruth 2nd. An extra good individual and sire but cannot be used in herd longer to advantage, and will be priced reasonable.

S. B. AMCOATS, Clay Center, Kansas

HUMBOLDT NATIONAL STOCK FARM.

Shorthorn cattle, large type Poland China hogs, 10 spring boars, priced right. Write me your wants. I meet parties at trains. We can do business. Come and see me.

H. F. PELPHREY & SON, Humboldt, Kansas

FIELD NOTES.

McKay's Poland Chinas.

G. W. McKay, proprietor of the Laredo Poland China herd, located at Laredo, Missouri, starts his card in Kansas Farmer this week. Mr. McKay is offering for immediate sale 25 very choice fall gilts. Some of them bred for August farrow. They were all sired by Mr. McKay's good herd boar, Impudent Style 133237. Mr. McKay also has six fall males that he has priced very reasonable. This year's crop of pigs are all by Impudent Style. Among the



dams of the fall and spring stuff is Hulda Darkness 120972, sired by Darkness Perfection, he by Chief Perfection 2nd. Faith 105916, daughter of Chief Perfection 2nd, dam Cute Keep On, Indiana Girl by Indiana, Sweet Clover by Keep Ahead, and others as richly bred as it is possible for Poland Chinas to be. Mr. McKay will hold his annual fall sale at the farm adjoining Laredo, on November 4th. You should remember the date and attend if possible.

Shorthorn Cows and Heifers.

The well known firm of Stewart & Downs of Hutchinson, Kan., are offering a few good cows and heifers for sale. All these are nicely bred and are good individuals. Look up ad on another page and write them your wants. Kindly mention the Kansas Farmer.

Albright's Poland.

This week we start the advertisement of Mr. A. L. Albright, live stock auctioneer and breeder of big smooth Poland Chinas. His excellent spring pigs are by a good son of S. P.'s Perfection and his sows are by such boars as Thompson's Quality, First Quality, Wonder Keep On, Keep On Perfection, etc. The sows are very large and growthy and can be bought now and shipped at little cost. Write Mr. Albright about them and mention Kansas Farmer.

Fuller's Poland Chinas.

Fuller Brothers, Poland China breeders of Humphreys, Missouri, start an advertisement in our Poland China department this week. The Fuller Brothers have three farms maintaining three herds, and comprising a total of 230 head. The herd boars are Fanny's Perfect 128134 A, winner of first at Iowa State Fair of 1907 in a class of over fifty. Big Tecumseh by Chief Tecumseh 4th, he by Chief Tecumseh 3rd, Storm Center, Jr., by Storm Center dam, by Spellbinder and Masticator 2nd by Masticator. Among the sows in the herd are four daughters of Indiana and out of a sow by Perfection E. L. that was winner at Sedalia in 1908. Two daughters of Chief Perfection 2nd, one by Spellbinder, one by Surprise On, he by On and On, one by Perfection E. L., one by Meddler and one by Sporting Imp. Fuller Brothers have for immediate sale eight choice gilts that they will sell either bred or open. Among the spring pigs are two outstanding good ones, one of each sex, sired by Jerrett, and out of a sow by Big Tecumseh. They will be shown at Sedalia this fall. Fuller Brothers also breed Collie dogs, and have eight nice puppies for sale. Write your wants and mention Kansas Farmer.

JERSEY CATTLE

JERSEYDALE STOCK FARM
IMPORTED JERSEY CATTLE.

We offer for sale the Imp. bull Noble of Trinity 86301, dropped March 31, 1908; a show bull from the tip of his horns to point of his tail, a great individual in every respect, with breeding surpassed by none. His dam is the great cow Viatrix 2nd 9769 H. C. Sire is the great bull Noble of Oakland's P. 3909 H. C. His color is rich golden fawn, good size, good bone. We also offer some high class Imp. heifers which are bred to the kings of the breed. We solicit correspondence from parties wanting high class Jerseys.

PHIL HANNON, Jr., Carthage, Mo.

LINSOTT JERSEYS

offers a few choice cows in milk and some bred heifers. Milk and butter records accurately kept.

R. J. LINSOTT,

Holton, Kansas

I have ready for service a few grand-

sons of Merry Maiden's Third Son, Financial Count, Eurybia's Son and Fontaines' Eminent. Prices and extended pedigrees upon application. These bulls will make excellent dairy sires and are fit to head any herd registered in A. J. C. C.

W. N. BANKS, Independence, Kansas

HOLSTEIN CATTLE

ALBA DAIRY 125 HEAD REGISTERED HOLSTEIN-FRIESIANS

LARGEST HERD OF THIS BREED IN IOWA.

Barns Sanitary—Herd Tuberculin Tested Twice Yearly. At the head of herd King Segis Hengerveld Vale who is son of the famous King Segis (sire of 3 record-breaking daughters), grandson of Hengerveld De Kol (sire of 100 A. R. O. daughters, 4 above 30 lbs.), great grandson of Sadie Vale Concordia the first 30-lb. cow. A. R. O. COWS FOR SALE. Young, sound, free from disease. Large official milk and butter records; rich breeding; splendid individuality. BULL CALVES FOR SALE from 1 to 6 months old.

SHENANDOAH,

J. C. GUTHRIE,

IOWA

HOLSTEIN CATTLE

SUNFLOWER HERD HOLSTEIN-FRIESIANS.

Offers eight sons of King Walker 40358, whose dam and granddam have A. R. O. record of over 30 lbs. butter in 7 days each. Dams of this lot of bulls have A. R. O. records as follows—27.89 lbs. at 4 years; 26.12 lbs. at 4 years; 25.19 lbs. at 4 years; 23.56 lbs. at 3 years; 21.35 lbs. at 3 years; 18.98 lbs. at 3 years; 18.28 lbs. at 4 years; 17.27 lbs. at 4 years, and correspondingly high milk and butter records for 30 days. They range from 15 months to 20 months in age. Every one an extra good individual and in fine condition. Tuberculin tested. They are by far the choicest lot of bulls ever offered west of the Mississippi river. Don't buy the cheap kind if you would expect the best results. Write for description and prices.

F. J. SEARLE, Prop.,

Oskaloosa, Kansas

BERKSHIRES

STALWART DUKE 117874.

Heads cur Berkshires, he formerly headed the Kansas Agricultural herd. His sire was Silvertips Revelation by Revelation. His dam was Hood Farm Duchess 18th 93300. Choice lot of spring pigs for sale. J. M. Nielson, Marysville, Kansas.

OHIO IMPROVED CHESTERS

MOSSE OF KANSAS.

Breeder of O. I. C. Swine.
"The best spring pigs in Kansas."

ARTHUR MOSSE,

Leavenworth, Kansas

MISSOURI VALLEY HERD.

Pure bred Ohio Improved Chester White swine. Few Sept. gilts for sale either bred or open. Booking orders for early spring pigs. Satisfaction guaranteed.

J. M. DRYDEN,

Phelps City, Missouri

MAPLE LEAF O. I. C's.

Strictly up-to-date Imp. Chester Whites of the best breeding and individuality. A few choice fall gilts and a fine lot of spring pigs to offer. Prices reasonable.

R. W. GAGE, R. D. 5, Garnett, Kansas

DUROC JERSEYS

ALFALFA STOCK FARM

Durocs of the best, can supply you singly or in carload lots. Sired by the best boars in the west, from sows equally well bred.

P. H. PAGETT, BELOIT, KANSAS

150 spring pigs of best of breeding and quality. Write your wants. Fall sale Oct. 22. Sow sale Feb. 2, 1911.

RINEHART & SON,

Smith Center, Kansas

"DUROCS GROWN IN THE OZARKS."

Ohio Chief and Col. Blood. Litters by Muncie Chief, Model Prince, King of Models, Inventor, The King I Am, Advance; several by Col. Carter, my leading herd boar. They are all grown right, are good, and we answer all letters of inquiry.

C. L. CARTER, Albany, Missouri

BRED SOWS, AUGUST FARROW.

Duroc sows and gilts sired by Bell's Chief 4th and bred to richly bred boars. Will sell and ship when safe.

FRANK VRTISKA, Pawnee City, Nebraska

ONE CHOICE fall boar, three choice fall gilts. Spring pigs, both sexes, from Hanley & Chief's Col. boars. Write for prices. Paul B. Johnson, Leavenworth, Kansas.

TILLER'S RICHLY BRED DUROCS.

Leading strains and choice individuality. 100 good pigs. Write your wants.

O. A. TILLER,

Pawnee City, Nebraska

DUROC SOWS and GILTS

30 fall gilts by G. C.'s Kansas Col. and 15 yearling and matured sows, all by noted boars. Will sell and hold until safe for fall litter. Also 10 fall boars, tops of our fall crop.

CHAPIN & NORDSTROM, Green, Clay County, Kansas

20 Duroc Jersey Gilts

Large Spring yearlings bred for Summer litters. They are large with lots of quality. The best of breeding, priced reasonable. Write today. They are bargains.

MARSHALL BROS.,

Burden (Cowley County), Kansas

When writing advertisers please mention Kansas Farmer.

DUROC JERSEYS

JEWELL CO. HERD

headed by Bonney K. 47075, all prominent blood lines represented. Fall sale Oct. 27. Sow sale Feb. 1, 1911.

W. E. MONASMITT,

Formosa, Kansas

I HAVE A GOOD BUNCH

of spring pigs of both sexes; up-to-date breeding with plenty of quality. Write me your wants and I will treat you right.

R. M. MYER,

Burr Oak, Kansas

QUICK SALE

W. C. WHITNEY,

DUROC JERSEYS

CROW'S DUROC JERSEYS.

Herd headed by Climax Wonder, he by Missouri Wonder. 100 head to select from. Prices reasonable. The electric car runs within three blocks of my farm. Come and see my herd at any time.

W. R. CROW,

Hutchinson, Kansas

DUROC HERD BOAR FOR SALE.

Skadden's Wonder 74445, the best living son of Nebraska Wonder. An excellent breeder and individual. Out of litter of 13. Just in his prime. Will price to sell.

A. B. SKADDEN,

Frankfort, Kansas

POLAND CHINAS

THE MORTONS QUALITY AND SIZE POLAND CHINAS.

Herd headed by Equipment 51530 by Impudence. For quick sale 20 summer and fall gilts sired by son of Meddler 2nd, bred for August farrow. Also 3 fall boars. All representations guaranteed.

THE MORTONS, Tampa, Marion County, Kansas.

BRED GILTS

Sired by First Choice, he by Grand Chief. Gilts bred to Little Bear, a grandson of On and On. Those offered for sale are the tops of a large bunch. The gilts and the price will please you. Write right now to Young & Kimmerring, Glasco, Kansas.

30 BRED POLAND CHINA GILTS

for sale. Spring and summer farrow, bred for April and May litters, choicest blood line, also 5 mature sows and boars ready for service; one by Meddler. Reasonable prices.

F. D. FULKERSON, Birmston, Missouri

HIGHVIEW BREEDING FARM

Devoted to the Raising of

BIG BONED SPOTTED POLANDS

The Farmers' Kind. The Prolific Kind. I am now booking orders for spring pigs to be shipped when weaned. Pairs or trios; no kin.

H. L. FAULKNER,

Box K, Jamesport, Missouri

200 LARGE TYPE POLAND CHINAS

Herd headed by Big Hadley, Long John 2d and John Ex. Young stock for sale at all times. A few choice Hadley boars.

CHARLES Z BAKER, Butler, Missouri

HARTER'S BIG KIND POLAND CHINAS

Headed by Mogul's Monarch 45858 and Capt. Hutch 39068. Over 100 choice pigs to select from. Visitors made welcome.

Also Barred Rocks. J. H. HARTE,

Westmoreland, Kansas

POLAND CHINAS WITH SIZE.

Headed by Pawnee Look. I have bred pure bred Poland for 20 years and have learned many valuable lessons, and in the future shall breed nothing but the big smooth kind. More hog and less hot air.

F. F. OERLY,

Oregon, Missouri

WALTER'S BIG SMOOTH POLAND CHINAS.

Expansive, one of the best living sons of Expansion, heads herd. A few choice fall gilts bred to Expansive for fall litters for sale.

H. B. WALTER,

Effingham, Kansas

MEISNER'S BIG POLAND CHINAS.

Headed by Metal Choice. Sows are daughters of such sires as Nebraska Jumbo, Pawnee Chief, Big Hadley, etc. Fifty fine spring pigs to date and more sows to farrow. Inspection invited.

T. J. MEISNER,

Sabetha, Kansas

POLAND CHINAS FOR SALE.

10 January boars, \$15 each.
15 January gilts, \$15 each.
17 yearling gilts bred for August and September farrow, \$30 each.

Good breeding and individuality.

F. D. YOUNG,

Winchester, Kansas

STRYKER BROS.' HERD POLAND CHINAS.

The greatest show and breeding herd in the West. Write your wants and they will please you. Buy the best and make the most. They breed the kind that win; the kind you want. Address

STRYKER BROS., Fredonia, Kansas.

BIG STRONG SEPTEMBER BOARS.

Sired by Guy's Monarch, the boar with frame for 1,000 lbs., and a 10½-inch bone. Out of dam by the noted boar First Quality. Low prices for quick sale; must make room for spring pigs.

H. C. GRANER,

Lancaster, Kansas

2 YEARLING BOARS FOR SALE.

Fine Metal by Gold Metal and John C. Hadley by Hadley Boy both good individuals and have made good as breeders. Will price reasonable.

JOHN C. HALDERMAN,

Burchard, Nebraska

LAREDO HERD.

Poland Chinas headed by Impudence Style 133237 and F. R.'s Meddler by Meddler for sale. 15 fall gilts bred for fall farrow and 9 other gilts.

G. W. MCKAY,

Laredo, Missouri

PRINCE HADLEY heads our Poland

China herd. His spring pigs are great. Others by Colossus, Mogul's Monarch, Expansion's Son, Sunflower King, Banner Boy and Meese's Mastiff. Write for description of pigs. W. C. Singer, Hlawatha, Kansas.

POLAND CHINAS

SULLIVAN COUNTY HERD.

Poland Chinas, 200 head in herd, best blood known to the breed. For sale 8 choice fall gilts, also 8 colts pups.

FULLER BROS.,

Humphreys, Missouri

20-BIG STRONG BOARS—20

The tops of 50 head ready for service. Want to make room for spring pigs and am making low prices. Strictly big type.

HERMAN GRONINGER & SONS,

Bendena, Kansas

10 SUMMER YEARLING POLAND CHINA GILTS

by On and On 2nd, bred for June and July farrow to Filbuster by Meddler 111111, \$30 for choice.

J. D. WILLFOUNG,

Zeandale, Kansas

CORRECT TYPE POLAND CHINAS.

Headed by Wise's Hadley by Big Hadley. Sows by What's Ex. Kansas Chief, Nemo L's Dude, etc., 75 choice pigs to pick from.

BERT G. WISE,

Reserve, Kansas

SHORTHORNS AND POLANDS.

Herd bull Acorn Duke 7th 281036. Poland headed by Big Bone Long. Females represent leading strain. Young stock for sale.

FREELAND & WILLIAMS,

Valley Falls, Kansas

BROWN COUNTY POLAND CHINAS.

Oldest herd in Kansas headed by Major B. by Major Bob 50211. Sows by Big Hadley, Johnson's Chief, etc. 3 extra good fall boars for quick sale, reasonable prices.

ELI ZIMMERMAN,

Hlawatha, Kansas

ALBRIGHT'S POLAND CHINAS.

The utility type, headed by N. E.'s Perfection by S. P.'s Perfection sows in herd carry the blood of noted sires and have been selected carefully 40 choice pigs, both sexes, ready to ship.

A. L. ALBRIGHT,

Waterville, Kansas

BIDGEVIEW STOCK FARM, big type

Poland Chinas, headed by Union Leader, Major Hadley and Hadley Prince. Sows by Expansion, Grand Look, Big Hadley, Bell Metal, etc. Spring pigs by herd boars, and Colossus. W. R. Webb, Bendena, Kan.

EUREKA Herd of pure bred Poland Chinas and Duroc Jerseys, 115 head to select from, with quality, size and good litters. Order early and get the best. Ready to ship after Aug. 1st, at farmers' prices. W. H. Sales, Simpson, Kansas.

FOR SALE

I STILL HAVE a few good fall boars for sale at very reasonable prices; will also offer my 2-year-old herd boar, O. K. Chief. He is a good individual of the 800-lb. type, heavy bone, a good even breeder.

R. J. PECKHAM,

Pawnee City, Nebraska

BLUE GRASS VALLEY STOCK FARM.

Big boned Poland Chinas. Herd headed by Big Hadley, King Ex. 3d, Long John 2d and Missouri Wonder. 4 of the best breeding boars of the breed; young stock for sale at all times; everything guaranteed as represented. W. A. Baker, Butler, Mo.

THE HAWTHORNE POLAND CHINAS.

Ten Strike, grand champion at the Oklahoma state fair, 1908, heads the herd. Special prices on 20 strictly topy boars, sired by Ten Strike and out of richly bred sows. These boars are of December and January farrow, good enough to head any herd. 50 choice gilts at very low prices. All pedigrees furnished when hogs are delivered.

T. M. CHAMBERS,

Oswego, Kansas

BIG TYPE POLAND CHINAS.

Gold Standard by Chief Gold Dust in service. Sows represent the most noted big type strains. Choice lot of spring pigs.

WALTER HILDWEIN,

Fairview, Kan.

GEO. SMITH'S BIG POLANDS.

headed by Mammoth Hadley the best son of Big Hadley. Sows, daughters of King Do Do, Johnson's Chief, Gold Metal, First Quality, Chief Gold Dust, 5 litters by Grand Model by Grand Chief. 100 choice pigs doing well.

Geo. W. Smith,

Burchard, Nebraska

FIELD NOTES

FIELD MEN.

O. W. Devine,Topeka, Kan.
Jesse R. Johnson,Clay Center, Kan.
R. G. Scollenbarger,Woodston, Kan.



PURE BRED STOCK SALES.

Hereford Cattle.

Nov. 10—T. I. Woodall, Fall River, Kan.
Nov. 15, 16—O. Harris, Harris, Mo.

Beckhires.

Aug. 19, 1910—Chas. E. Sutton, Lawrence, Kan.

Hornes.

Oct. 26—W. S. Corra, Whitehall, Ill.

Shorthorn Cattle.

Nov. 15—J. E. Joines, Clyde, Kan.
Feb. 22—Phillip Albrecht, Smith Center, Kan.

Percherons, Belgians, and Shires.

Nov. 1, 2, 3, 4, 1910, Breeders' Sale Co., Bloomington, Ill.
Jan. 10, 11, 12, 13, 1911—Breeders' Sale Co., Bloomington, Ill.
Feb. 28, and March 1, 2, 3, 1911—Breeders' Sale Co., Bloomington, Ill.

Durocs.

Oct. 19—G. Van Patten, Sutton, Neb.
Oct. 25—Leon Carter, Asherville, Kan.
Oct. 28—Thompson Bros., Garrison, Kan.
Oct. 28—P. H. Pagett, Beloit, Kan.
Oct. 27—W. E. Monasmith, Formosa, Kan.
Oct. 29—Rinehart & Slagle, Smith Center, Kan.
Nov. 4—White Bros., Buffalo, Kan.
Nov. 15—J. E. Joines, Clyde, Kan.
Nov. 19—Phillip Albrecht, Smith Center, Kan.
Jan. 30—A. T. Cross, Guide Rock, Neb.
Jan. 31—Ward Bros., Republic, Kan.
Feb. 1—W. E. Monasmith, Formosa, Kan.
Feb. 2—Thompson Bros., Garrison, Kan.
Feb. 2—G. P. Phillips, Esbon, Kan.
Feb. 3—Rinehart & Slagle, Smith Center, Kan.
Feb. 4—W. C. Whitney, Agra, Kan.
Feb. 13—T. B. Gothe, Leonardville, Kan.
Feb. 14—Chaplin & Nordstrom, Green, Kan.
Feb. 14—Clay Center, Kan.
Feb. 15—Leon Carter, Asherville, Kan.
Feb. 16—W. T. Fitch, Minneapolis, Kan.
Feb. 17—L. E. Boyle, Lindsey, Kan.
Feb. 22—Phillip Albrecht, Smith Center, Kan.

Poland Chinas.

Aug. 10—G. A. King, Cullison, Kan.
Aug. 11—E. H. Davidson, St. John, Kan.
Sept. 20—J. D. Spanier, Sharon, Kan.
Oct. 5—Homer Gruver, Spring Hill, Kan.
Oct. 8—Bert C. Wise, Falls City, Neb.
Oct. 12—W. B. Stafford, Bronson, Kan.
Oct. 13—Bert G. Wise, Reserve, Kan.
Oct. 14—T. J. Dawe, Troy, Kan.
Oct. 15—J. B. Whipple, Fall City, Neb.
Oct. 18—Herman Groninger & Sons, Ben-dena, Kan.
Oct. 19—A. B. Garrison, Summerfield, Kansas.
Oct. 20—Hubert J. Griffiths, Clay Center, Kan.
Oct. 21—J. M. Ross, Valley Falls, Kan., and W. E. Long, Ozawie, Kan., sale at Valley Falls.
Oct. 22—H. C. Graner, Lancaster, Kan.
Oct. 22—Ell Zimmerman, Hiawatha, Kan.
Oct. 25—W. C. Singer, Hiawatha, Kan.
Oct. 26—W. R. Webb, Beadens, Kan.
Oct. 26—M. H. Gannett, Kan.
Oct. 27—Walter Hildwein, Fairview, Kan.
Oct. 28—J. H. Harter, Westmoreland, Kan.
Oct. 28—I. R. Berkey, Louisburg, Kan.
Nov. 1—J. H. Hamilton & Son, Guide Rock, Neb.
Nov. 1—H. B. Walter, Effingham, Kan.
Nov. 1—H. F. Pelphrey, Humboldt, Kan.
Nov. 2—Albert Smith & Sons, Superior, Neb.
Nov. 2—J. W. Pelphrey, Chanute, Kan.
Nov. 2—Albert Smith & Sons, Superior, Neb.
Nov. 2—R. J. Peckham, Pawnee City, Neb.
Nov. 3—The Mortons, Tampa, Kan.
Nov. 3—George W. Smith, Burchard, Neb.
Nov. 3—D. W. Evans, Fairview, Kan.
Nov. 4—W. A. and C. Z. Baker, Butler, Mo.
Nov. 4—Bert G. Wise, Reserve, Kan.
Nov. 4—G. W. McKay, Laredo, Mo.
Nov. 5—Fuller Bros., Humphreys, Mo.
Nov. 6—T. J. Meisner, Sabatha, Kan.
Nov. 10—W. R. Stump, Blue Rapids, Kan.
Nov. 11—S. B. Amcoats, Clay Center, Kan.
Nov. 16—W. A. Prewett, Asherville, Kan.
Nov. 19—G. W. Roberts, Larned, Kan.
Jan. 18—H. F. Pelphrey, Humboldt, Kan.
Jan. 19—J. W. Pelphrey, Chanute, Kan.
Jan. 20—Roy Johnston, South Mound, Kan.
Jan. 26—W. R. Stump, Blue Rapids, Kan.
Feb. 7—J. M. Ross and W. E. Long, Valley Falls, Kan.
Feb. 8—H. B. Walter, Effingham, Kan.
Feb. 8—T. J. Charles, Republic, Kan.
Feb. 9—Albert Smith & Sons, Superior, Neb.
Feb. 9—Albert Smith & Sons, Superior, Neb.
Feb. 10—J. H. Hamilton & Son, Guide Rock, Neb.
Feb. 16—J. H. Harter, Westmoreland, Kan.
Mar. 4—C. H. Filcher, Glasco, Kan.

A Few Choice Shorthorns.

C. H. White of Burlingame, Kansas, is offering for sale a few choice Shorthorn heifers all of which carry from five to six Scotch Top crosses. Such families as the Lavenders, March Violet, and Brawith Bud are strongly represented in this herd. If you need a few good cows and heifers don't fail to write Mr. White; he will price them right. See ad on another page.

Big Boned Poland Chinas.

Don't fail to look up the ad of Roy Johnston of South Mound, Kan. He is offering spring boars sired by Blaine's Wonder, Orphan Chief, John Long, and Logan Ex., and out of the best herd sows. Mr. Johnston says these are the best lot of pigs he ever raised and we know he has raised some good ones. Look up ad and write early for a choice pig. Get the pick first then you are sure to get a good one. Kindly mention the Kansas Farmer, when you write.

Marshall Bros.' Durocs.

Marshall Bros. of Borden, Kan., are offering 50 choice gilts. They are fall yearlings and have been grown out. Most of them are bred for fall and summer litters.

The breeding of these gilts are all that any one would ask. There are 4 gilts sired by Old Missouri Wonder and Mc's Pride, and King Wonder V. The Marshall Bros. have a wide reputation for growing large prolific Durocs, and the bunch of herd sows are the best we know of. There is not a bad back or poor foot or bad head in the 25 herd sows kept on this farm. It will pay any breeder to spend a day on the Marshall farm and carefully study this good herd of Durocs which Marshall Bros. have been so many years building up. They have all the up-to-date and popular blood lines and some of the best individuals to back up the breeding that you will find on any farm. Write to Marshall Bros. for prices on a few bred gilts. They have them to sell. Kindly mention the Kansas Farmer when you write.

Zimmerman's Polands.

Ell Zimmerman, the oldest Poland China breeder in Kansas, starts his card in Kansas Farmer this week. Mr. Zimmerman has bred Polands for 35 years and was the first man in Kansas to record a Poland China. His fine lot of spring pigs are by Major B. by Major Rob except one outstanding good litter by Singer's great boar Prince Hadley. The dam of Major B. was by Big Hadley. In Mr. Zimmerman's herd can be seen some of the best sows of the breed, among them two daughters of Big Hadley, two by Prince Hadley, and one by Johnson's Chief. Mr. Zimmerman has for quick sale three fall boars that are good ones and will be priced worth the money. When writing mention Kansas Farmer.

Bakewell's Poland Chinas.

J. W. Bakewell, proprietor of the famous what's wanted herd of Poland Chinas, located at Endicott, Neb., starts his advertising card in Kansas Farmer this week. Mr. Bakewell has bred Poland Chinas for 25 years and is unequalled in ability as a developer of show stuff, rarely having fitted an animal for a state fair that failed to win. His present herd boar Expansion Over is one of the best sons of Old Expansion. He is a thousand pound hog, and will be seen at the Nebraska State Fair this year. He is very smooth and symmetrical, and is very sure to be winner in the aged boar class. Mr. Bakewell has a large lot of very choice pigs sired by this hog. Among the grand old sows in the herd are several daughters of Pan, Jr., by Expansion and two daughters of Grand Look, one by Exception and some by old Expansion himself. Many of these sows are 700 pounders and very smooth and excellent producers. If you need a herd boar with size and quality, write J. W. Bakewell, mentioning the Kansas Farmer, and be sure you are dealing with a man who uses the golden rule in his business.

Wise's Poland Chinas.

This week we start the advertisement of Bert G. Wise's Poland Chinas. Mr. Wise whose home is at Reserve, Kansas, has bred Poland Chinas for more than twenty years. His present herd boars are Wise's Hadley and Good son of Big Hadley and out of Graceful S. by Johnson's Chief. About eighty of the hundred pigs were sired by this boar. Others are by Colossus, W's Quality, grandson of First Quality and Grand Look. Among the good sows in Mr. Wise's herd are several in the 600 and 700 pound class. Among them Wise's Neomo, granddaughter of Nemo L's Duds, W's Lady, another very large sow of Expansion Highland, Jr. Wonder Chief breeding, Hiawatha first is one of the good producing sows, as is also Roseland Bell by What's Ex., and out of Bell a Mental dam. This sow was pronounced by H. C. Dawson as being the best sow sold at Ren Bell's January 7th sale. She has a pair of the finest male pigs we have seen this year. They are by Colossus. Write Mr. Wise about Poland Chinas and mention the Kansas Farmer.

Herd Boars for Sale.

New that John C. Halderman at Burchard, Neb., owns the great boar, Gold Metal, he offers to sell the yearling boar, True Metal by Gold Metal. True Metal is a good individual and has sired a fine lot of pigs for Mr. Halderman. The yearling boar, John C. Hedley by Halley Roy, is also for sale at a very reasonable figure.

Mr. H. Ramakir of Prairie View, Kan., was visited last week and as usual has a good bunch of Durocs on hand. About 75 head constitutes the spring crop this year. Mr. Ramakir breeds the best in breeding and quality and his herd shows the effect of his good selections and matings. A good trade has been enjoyed here the past season and everything is sold out but the spring crop. You will hear more from this herd later.

Lone Star Durocs.

The writer last week visited the herd of Durocs owned by J. L. Williams of Bellaire, Kan. Mr. Williams has bought the best with which to found his herd and his bunch of spring pigs of which there are over 100 head are an exceptionally even and have more strength than I usually found. They are sired by a good son of Kant Be Beat and an extra good yearling boar by Golden Ruler by Pearl's Golden Rule, and out of dams by such sires as Model Chief Again, Ohio Chief, Belle's Chief 2d, Kansas Wonder Lincoln Model and other good sires. Mr. Williams will price you pigs now at living prices and will hold a fall sale Nov. 15, and a bred sow sale, Feb. 4, 1911.

J. C. Staler Has Good Herd.

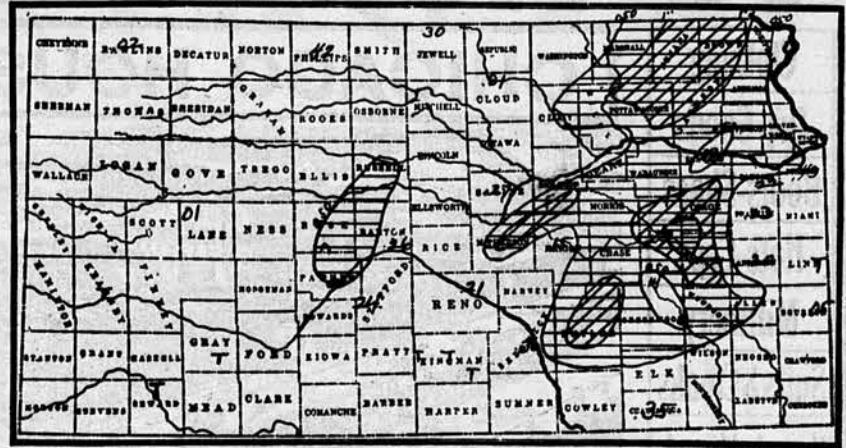
One of the good herds of Poland Chinas that we saw this week is that of J. C. Staler of Jasper, Mo. Mr. Staler has at the head of this herd a John Long boar named Billie Sunday and one of the good sows in this herd is Blaine's Wonder sow, that has a litter of 8 fine pigs by Erie Expansion. This sow was purchased from the J. W. Pelphrey herd at Chanute, Kan., and she has made good like all the hogs the Pelphreys send out. Mr. Staler has for sale some fine young boars, grandsons of old Hadley. Some by Designer and Major Look. Write for prices, the pigs are all right. Mention Kansas Farmer.

Home Bred Percherons.

J. W. Barnhart of Butler, Mo., is now offering some choice 2-year-old fillies for sale, several in matched teams, and they will be bred to the herd stallion. At the price asked for these young mares they are bargains. Mr. Barnhart also has about 25 yearlings that he will price very reasonable. Everything registered and sold on an absolute guarantee or your money back. Mr. Barnhart makes his word good and raises Percheron horses to sell at fair, honest prices. This is why his business has

KANSAS CROP REPORT
and Rain Fall for week ending June 25

Rain chart prepared by T. B. Jennings from reports collected by the Weather Bureau.



SCALE IN INCHES

Less than .05 .05 to .1 .1 to .2 .2 to .3 Over .3 T. trace.

GENERAL RESULTS.

The week has been very hot and quite windy. Fair to good rains have fallen in the eastern division and light to fair rains in the middle division though good rains occurred in McPherson and Butler counties and no rain in Barber, Harper and Ellis counties. While in the western division very light rains occurred in a few counties but generally no rain occurred. A hail storm occurred in Barton county in which some of the hailstones weighed 13 oz.

Harvest is general. Corn is doing well. RESULTS.

Reports by Counties.

Eastern Division.

Allen—Wheat harvest on. Good corn week.
Anderson—Crops are doing finely.
Bourbon—Crops look fine. The ground is beginning to need some rain.
Chase—Good week for crops.
Chautauque—Good week for corn.
Coffey—Corn and oats making splendid growth.

Douglas—Harvesting of winter wheat and barely begun; they both promise good yields. Oats well headed and heads well filled. Corn doing finely. Second cutting of alfalfa nearly all removed. Timothy about ready to cut but will yield less than last year on account of dry weather early.
Franklin—Corn doing finely.
Greenwood—Good week for corn, and for harvesting.

Johnson—Ideal corn growing weather. Agriculturists are very active.
Linn—Weather very favorable for cleaning corn. Wheat harvest in progress—weather fine. Nothing suffering for rain.

Marshall—Seasonable weather. Corn cultivation being pushed. New potatoes going to market.
McMaha—An abundance of rain; crops doing very well.

Montgomery—A good growing week; wheat mostly cut—fair yield of excellent quality. Oats ripening. Corn in good condition except on wet land, where it is weedy.
Nemaha—An abundance of rain—crops doing very well.

Shawnee—New potatoes being marketed also, peas, beans, beets, onions and cabbage. Corn growing finely.
Woodson—Good week for farm work; fields clean. Corn made good growth. Oats doing especially well.

Middle Division.

Barber—Good week to kill weeds in the corn. Harvest in full blast; crops good.

Barton—Harvest begun. Light showers but the heat brought out corn. Second crop of alfalfa cut, only half crop.
Butler—Corn is breaking its back growing.

Clay—First crop of alfalfa in stack; corn

is growing finely; wheat harvest ready. Ellis—Winter wheat harvest in progress; spring sown small grain beginning to suffer from drought. Corn looks fine but is beginning to need a little rain.

Harper—Hot dry week; wheat harvest in progress; many instances of chinch-bug damage reported.
Jewell—Good week for cultivation; corn being thoroughly cleaned.

Kingman—Wheat harvest in progress, getting along finely. Oats cutting begun; needing rain badly; everything dry.
McPherson—Corn growing.

Marion—Corn doing well but needs more rain.

Pawnee—The hot weather has ripened wheat rapidly, many binders and headers have started. Corn clean and growing rapidly.

Phillips—A hot week; needing rain; harvest begun.

Reno—Hot dry week; wheat harvest begun, fair crop. Oats beginning to ripen. Corn looking well and cultivation progressing rapidly with ground in good condition.

Saline—Local showers, but generally very hot and dry.

Stafford—Hot week with a few local showers.

Western Division.

Clark—It is getting very dry; crops are not hurt yet but need rain.

Decatur—Hot, windy weather past 12 days has reduced the prospective yield of wheat 50 to 75 per cent. Oats and barley practically ruined. Corn, though small, is growing nicely. Some wheat being cut.

Gove—Hot, dry, windy week. Oats, barley, corn, all dry. Wheat, wheat damaged 25 per cent. Rain soon would do wonders.

Gray—Hot, dry, windy week.

Hodgeman—Very hot and dry. Wheat ready to harvest, a few headers running. Wheat, barley and oats probably the best ever raised in the country, but acreage small; corn looking fine.

Kearney—Maximum temperature 100 degrees to 107 degrees all the week and only a trace of rain. Hard on all growing crops but where cultivators are kept busy they stand it well and are growing right along. A good soaking rain needed, however, for best results.

Lane—Very hot, windy, dry week. Grain ripening rapidly. Harvest ready to begin.

Norton—Hot, dry, windy week. Harvest well begun. Wheat and oats damaged badly. Potato crop cut very short. Pastures drying up. Ground dry but corn in fine condition.

Rawlins—Hot, dry and windy.

Seward—Wheat being harvested. Spring crops all needing rain badly.

Wallace—Windy, dry and hot. Crops are doing fairly well.

grown each year. Look for ad on another page and write for prices or go and see this herd. Please mention Kansas Farmer when you write.

W. A. Jones, Ottawa, Kan.

With this issue we start a card for W. A. Jones of Ottawa, Kan. Mr. Jones is better known among the older breeders as W. A. Jones of Van Meter, Iowa, the man who bred, owned, and showed old Chief Tecumseh 2nd. Mr. Jones showed this great hog at the Iowa State Fair in 1907, winning first in class, going back in 1902 winning first and champion; also showing at Nebraska State Fair of the same year; winning first from Nebraska he was shown at

Illinois State Fair winning second place. From this same line breeding Mr. Jones has produced his present herd boar, Creston Dude who was second in yearling class in 1905 and second in the aged class in 1906 at the Iowa State Fair. Creston Dude was sired by Conrad's Dude by Guy Superior by Guy Wilkes by Geo. Wilkes by Chief Tecumseh 2nd and his dam was White Face, tracing to old Chief Tecumseh 2nd in the 4th generation. Creston Dude is now a 6-year-old hog and strong and as active as a pig. Mr. Jones is offering a few choice boars sired by Creston Dude, out of the great show sow, Midnight Lady. If you need something of this line of breeding write Mr. Jones and mention the Kansas Farmer.



40 ACRES OF BARGAINS

Clothing

Dry Goods

Boots-Shoes

Hats-Caps

Millinery

Suits & Cloaks

Household Goods

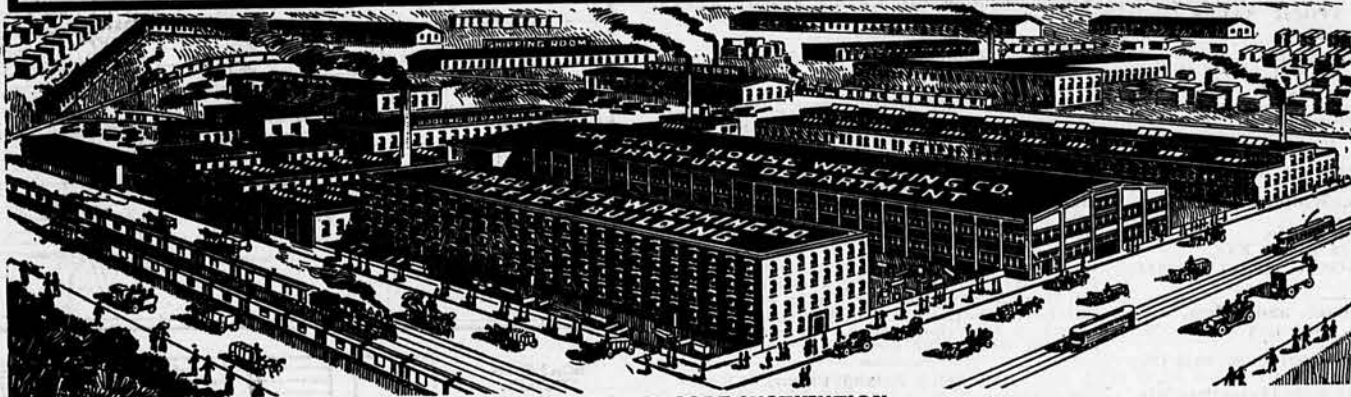
Furniture

Linoleum

Carpets

Rugs

CHICAGO HOUSE WRECKING CO.



VIEW OF OUR 40 ACRE INSTITUTION

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If you buy any goods from us not fully up to your expectations, we will take them back and refund the full purchase price in addition to paying the freight both ways; so you take no chances when you deal with us. Hundreds of thousands of satisfied customers is proof of our responsibility. We will ship goods C. O. D. where a deposit of 25% accompanies order. You need not pay balance until goods reach destination and you have an opportunity to examine them at the depot. If you find any goods contrary to our description we will take them back and refund your deposit. Our wonderful Catalog is fully described below. Be sure to fill in the coupon and send for it at once. It is sent you absolutely free of cost.

Lumber

Mill Work

Machinery

Fencing

Hardware

Roofing

Plumbing

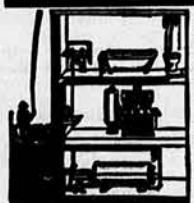
Iron Pipe

Heating Plants

Paints

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WATER PRESSURE SYSTEMS



Modern Air Pressure Water Supply Systems at prices ranging from \$48 to \$200. They are strictly new, first-class and complete in every detail. Our Book of Plumbing and Heating, which we mail free of charge, tells all about them. You can enjoy all the comforts of city life by their use.

PRICE WRECKING SALE OF FURNITURE

Over \$300,000 worth of high grade, brand new furniture, carpets, rugs and linoleum. Everything needed to furnish your home complete. No shoddy furniture in our stock. It is the best that can be manufactured. It is built for the tastes of people who know real quality. Our goods are bought at Sheriffs', Receivers' and Manufacturers' Sales. This gives us a big advantage over any possible competition and the public gets the benefit of our buying operations. Write for prices on any article you may require. Our General Catalog shows all our wonderful furniture stock. When in Chicago visit our monster furniture salesroom, the largest in America.

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We furnish complete Hot Air, Hot Water and Steam Heating Plants of every kind. It makes no difference whether it is an old or a new building, we can furnish material at real wrecking prices. Our special Heating Booklet, which we send free to those interested. It tells all the facts and gives much valuable information. Send us sketch or diagram of your building or home and we will make you an estimate. Anyone can install them with the aid of our blue prints and free instructions.

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Best and strongest galvanized Heavy Woven Wire Fence made. Brand new, all very heavy wires, suitable for all uses. Guaranteed, 20 in. high, Hog Fence at 15¢ a rod. 36 in. high, Stock Fence at 19¢ rod. Other heights at equally low prices. 36 in. high, Closely Woven Heavy Galvanized Wires, Poultry Fence at 29¢ rod. 35 in. high, Ornamental Lawn Fence, beautiful designs at 10¢ lineal ft. Barbed Wire, Brand new and perfect at \$1.65 per reel of 80 rods.

5 FT. STEEL HOG TROUGH \$1.30

Last forever. "So strong no animal can break or injure," made of ½ inch boiler steel. Size 10 in. x 5 in. x 5 ft., at \$1.80, worth \$4.00. Over 150 other styles and sizes for Poultry, Hogs, Sheep, Horses and Cattle.

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\$2.00 Buys Complete Set Blue Prints for Either of Above House Designs.

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How We Operate: We purchase at Sheriffs' Sales, Receivers' Sales and Manufacturers' Sales, besides owning outright sawmills and lumber yards. Usually when you buy your building material for the complete homes shown above, elsewhere, it will cost you from 50 to 60 per cent. more than we ask for it. By our "direct to you" method we eliminate several middlemen's profits. We can prove this to you. Our Handsome Book of Plans of House, Bungalow and Barn Designs is Free. See description and coupon below.

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The greatest bargain in the world. Fire, hail and weatherproof. Not affected by heat or cold. Used in any climate. Made from pure asphalt. A strictly high-grade lasting covering. Recommended by fire underwriters. 108 Sq. ft. to a roll, with large headed nails and cement for laps. Requires no coating. Samples free. 1 ply Guaranteed 8 years \$1.22 per roll. 2 ply " 12 " 1.49 per roll. 3 ply " 12 " 1.71 per roll. Freight prepaid to Ill., Ind., Ohio, Pa. Write for prices to other States and "Roof Booklet."



STEEL ROOFING, pr. 100 ft. \$1.60

100,000 Squares of new Steel Roofing which we are selling at the following prices, freight prepaid: Flat. \$1.60 Corrugated, V Crimped or Standing Seam. \$1.85 At these prices we prepay freight to all points east of Colorado except Oklahoma and Texas. Quotations to these points on application. Our high grade Galvanized Rust Proof Roofing at prices ranging from \$5.00 per square up. Write today for free sample and Great Book on Roofing.



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9x12 ft. Smyrna Rugs \$6.00, extensive variety of beautiful patterns, oriental or floral designs, rich color combinations. These rugs are reversible and may be used on either side, thus giving you the service of two floor coverings for the price of one. These rugs are absolutely brand new and perfect. We also have large stocks of Royal Wilton, Axminster and Brussels Rugs.



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MEN'S SUITS \$4.95

5,000 Brand New men's suits bought by us from a "Hard up" manufacturer. Made in plain black cheviot; usual retail selling price \$10.00. With each order we include an extra pair of striped trousers without additional cost. Comes in sizes 34-44 chest; 30 to 42 waist and 30 to 35 inseam. \$4.95

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A bankrupt stock of brand new handsome knickerbocker style combination suits, made of durable Wagoner Cassimere dark olive brown mixture, coat and breeches cut in the latest style and with every order we give an extra pair of breeches. Sizes 8 to 16 years. Regular retail price \$5.00. Our bargain price \$2.95. Your money back if you are not satisfied. Send us your order to-day.

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3,000 pair from Receiver's Sales; guaranteed first-class in every particular. Made from genuine patent colt skin. Have dull glove tops, oak tanned soles, swing last with extension soles, Cuban heels. An excellent, perfect up-to-date shoe for any man. All sizes.

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90¢. buys our special flat rim, cast iron, white enamel Kitchen Sinks, new but slightly defective. Price includes strainer and coupling. \$5.50 buys an enamel Bath Tub. \$10 is our price for a cast iron, roll rim, white enamel Bath Tub. \$9.50 for our white enamel low down tank Water Closet, complete outfit. You can buy Wash Stands from us at \$3.25. IRON PIPE at mill prices.



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Chicago House Wrecking Co., Chicago, Ill.

Gentlemen:—I received the carload of lumber in fine shape and I am well pleased with it. Everything is checked off all right and it is fine. It will be a good advertisement for you as there is quite a number watching this house go up.

I received the voucher for \$20.74, for which I send you many thanks. Now I wish you would send me one of

your large catalogues as I will need a lot of things to put in this house when I get it built.

(Signed) Yours truly, EDGAR ONION.

R. F. D. No. 21, _____, Wis.
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Gentlemen:—Enclosed please find freight bill for windows and doors for House Design No. 117 which was to be paid by you. Please credit my credit with \$2.93.

All the goods arrived in good shape except the two glasses which the railroad company paid me for. I have the house about completed and everything is satisfactory.

(Signed) J. J. RICHTMAN.

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Gentlemen:—Received lumber and have house built. Am very well pleased and think it first class. Am

sending you another order. It is a mixed up one but hope you will approve of it. . . . ?

(Signed) JONH SWALLOW.

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Yours very truly,
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