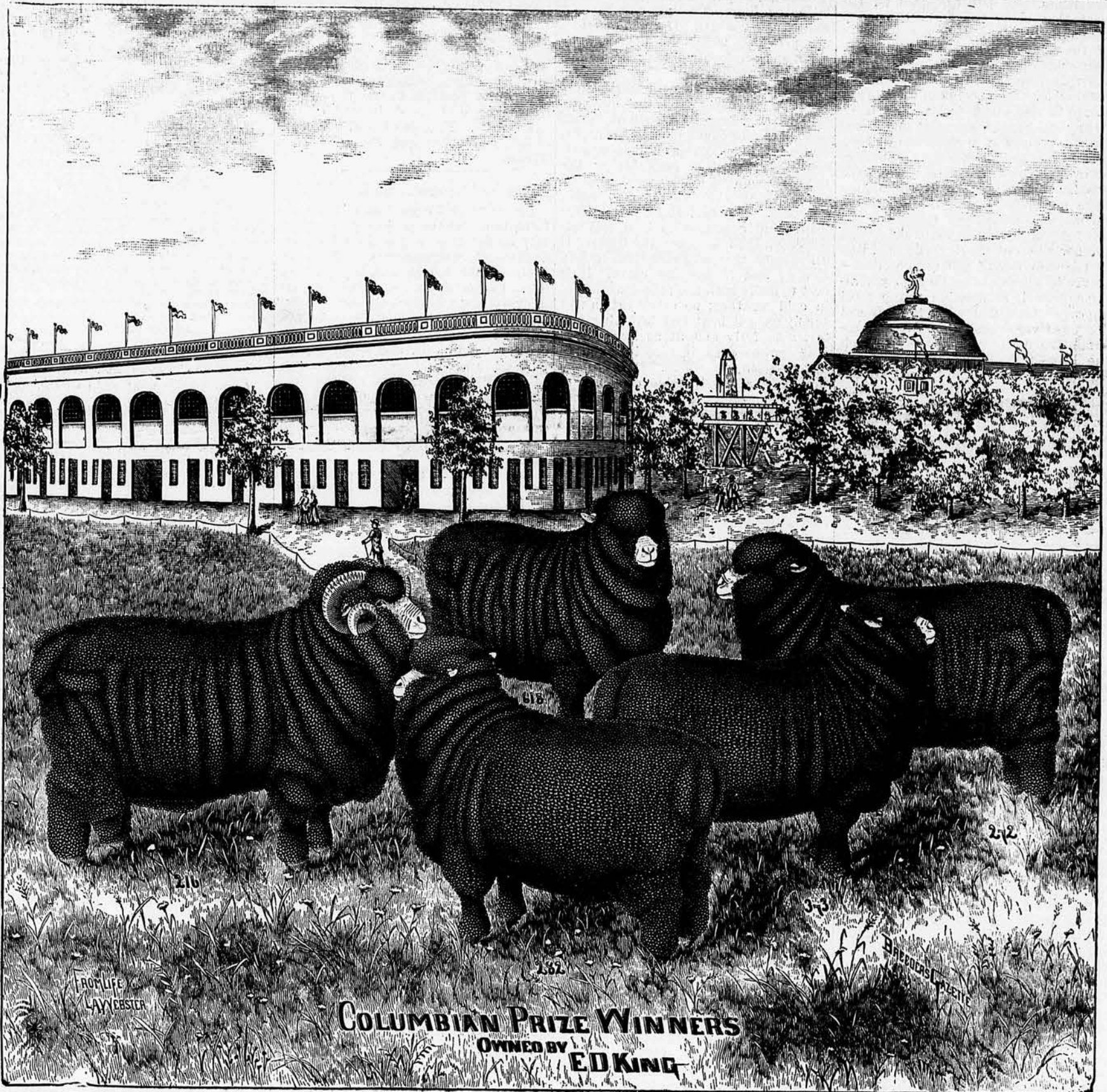


KANSAS FARMER

ESTABLISHED 1863. VOL. XXXII, No. 2. TOPEKA, KANSAS, WEDNESDAY, JANUARY 10, 1894. SIXTEEN TO TWENTY PAGES—\$1.00 A YEAR.



Columbian Prize-Winning Merinos.
 Our illustration is a representation of a group of Merino sheep from Meadow Brook farm, property of E. D. King, Burlington, Coffey county, Kas., which were at the front in the Columbian and other shows. The ram E. D. King 216 won first prize at the Indiana State fair and headed the flock of ram and six ewes. At the Columbian he was second-prize two-year-old in class "Merino A, form of carcass, with quality and weight of fleece to be considered." He is a large and handsome ram, with a long, dense fleece, very even all over and covering him extra well on legs and belly, and Mr. King

believes that the quality of fleece was not surpassed by any Merino on the Columbian grounds. He was sired by the 203-pound ram Logan. Ewe W. E. B. 618, winner of first as yearling and sweepstakes female of class Merino A, is of medium size and is of the highest Merino type in covering, quality and density of fleece. Ewe E. D. K. 282, second among the two-year-olds and second in sweepstakes in class "Merino B, size and form of carcass, with quality and weight of fleece to be considered," is a long-bodied, broad, straight-backed, round-ribbed, heavy-quartered ewe of the mutton type, with an extremely even and handsome fleece. Her second fleece weighed twenty-

three pounds, with three and one-fourth inches staple, and she now weighs 138 pounds. E. D. K. 372 (erroneously marked by the artist 272 on the plate) won first as ewe lamb in Merino A. She is a large, blocky model in form and complete in covering, with a long, dense fleece of high quality. She was sired by Brick, also the sire of the first and fifth-prize yearling rams in Merino A. E. D. K. 373, first-prize ewe lamb in Merino B, is of the smooth, broad-backed, mutton-Merino type, thoroughly wooled with a dense fleece of high quality. She is sired by Logan and her granddam is the dam of five Columbian prize-winners, as well as granddam of both the first-prize

ewe lambs Nos. 272 and 273—a record probably not equalled by any ewe of any breed shown at the Columbian Exposition.
 Mr. L. A. Knapp, of Maple Hill, made a call at this office this week. He is in to attend the stock meetings, the poultry show, etc. He reports inquiries as exceedingly good; has sold four Poland-China boars and two Short-horn bulls in the past two weeks. He says his herd bull, Scottish Victor, 2 years old, last spring, will weigh 1,800 pounds and is a plumb good one, both as an individual and a breeder. If you want anything in his line you had better visit him.

Handwritten notes at the bottom of the page, including numbers like 12, 110, 180, 130, 210, 220, 230, 240, 250, 260, 270, 280, 290, 300.

The Stock Interest.

CATTLE AND PEDIGREE.

"The success which breeders of improved cattle ultimately obtain depends upon the relative importance they attach to the cattle," says Henry Wallace, of the Iowa *Homestead*; "that is, to the individual merit in cattle and to pedigree."

"The man who, in making his selection, secures cattle first, that is, cattle with high individual merit, approximating as closely as possible to the most approved type, and then secures the best pedigree he can get, is the man who is most likely to make the business a success. This was the key to the success of Mr. Cruickshank and the Scotch Short-horn breeders. They had in their mind's eye, clearly and distinctly, a certain type of cattle which combined a high degree of vigor and great powers of digestion and assimilation, and put the gain on the parts that bring the highest price in the market. They were not ignorant of the value of pedigree and insisted, in connection with this high degree of individual merit, on the best pedigrees obtainable. They were not disposed to run to fancies, either in breeding, color or any other minor essential, and hence they developed a type of Short-horn cattle that has found eager customers all over the cattle-growing world. We are far from saying that these men have not made mistakes, for to err is human, and we believe that no breed or family of cattle has yet combined all the bovine virtues. Nevertheless, this is the safe line of policy to pursue—secure by all means cattle approximating as closely as possible to the most approved type and with the highest degree of vigor and digestive and assimilative capacity, and that furnish the largest number of pounds of the high-priced cuts which the market demands. In securing this secure, also, the best possible pedigree. No matter how high the individual merit of an animal, unless this merit has been sustained for some generations it cannot be expected to reproduce itself. It is, therefore, easy to attach undue importance to individual merit, standing by itself alone and unsustained by the law of heredity. It is, on the other hand, very easy to attach too much importance to pedigree, as the term is usually understood.

"Pedigree is simply the recorded evidence of the ancestry of the animal. In itself it says nothing as to whether the ancestry was meritorious or not. A pedigree which furnishes the recorded ancestry of an animal, all of which were of superior individual merit, is one of great value. The weakness of the mere record of pedigree is that in itself it does not furnish the evidence of this superior merit and which, therefore, must be gleaned from other sources. The most that records, as they are now generally made up, can prove is, that the animal was bred on approved lines and that it had sufficient merit individually to justify the owner in recording it. The degree of merit necessary for this depends altogether on the judgment of the owner, and if the breed is a new one, or of established reputation, the owner is very apt to record everything that is eligible to record, whether it possesses individual merit or not. For these reasons it has been quite easy to err on the side of pedigree. It is likewise easy to err on the side of the fancies. Some animals have appeared having great individual merit and acknowledged prepotency, towering, so to speak, above the rank and file of the breed. It does not necessarily follow that down to the remotest generations this posterity has the quality of the progenitor. It is still more easy to err on the side of the fancies, such as color and minor peculiarities of form. Breeders of all kinds of live stock have a constant tendency to fly off on a tangent after some immaterial and relatively unimportant feature. It is all the more important, therefore, that those who start out in breeding should secure cattle, hogs, sheep, or whatever they may be, of the highest individual merit, and then back this up by an ancestry possessing as far as possible the same characteristics, or, in other words, with a first-class pedigree."

Fattening Hogs in Winter.

"Under what may be termed average conditions it is not usually a good plan to attempt to fatten hogs during the next two months," says the *Swineherd*. "Yet in some cases with pigs that were farrowed late in the spring and are reasonably well matured it will be better to fatten and market rather than to feed during the next two months, keeping in a good, thrifty condition and then fattening and marketing later."

"Under present conditions hogs should not be kept for any length of time after a sufficient growth has been made to profitably fit for market. In nearly all cases a safe rule to follow is to push the growth from birth and when ready to sell, market. Sometimes a better price may be realized by holding, but there is so much risk of loss that it is only in exceptional cases that it can be considered advisable."

"The principal item to remember in fattening hogs at a low cost in cold weather, is warmth. If warm quarters are provided, where the hogs can be clean and comfortable, they can be fattened very readily."

"But if the animal heat must nearly or quite all come from the food, the cost will be increased to such an extent as to preclude much chance for profit. So that if, for any reason, it is considered best to fatten hogs during the next two months, good care should be taken to provide clean, dry, warm quarters. The material used and the manner of construction is of less importance than to have the items. If convenient, they will save time both in feeding and in keeping clean. It is best to make corn the principal ration, in cold weather; no other ration will supply animal heat and fattening material as fully and at as low a cost. Slop can be used if care is taken to have reasonably warm. It is, to say the least, a questionable economy to feed frozen slops to hogs of any kind, and especially in fattening hogs, as the chilling of the system by drinking or eating them would have to be made up with other material."

"The feeding places must be warm as well as the sleeping, as coming out of a warm bed and standing exposed to cold while eating would increase very materially the risk of disease. The hogs must be kept healthy if they are to gain as they should. Because of the cold it may be necessary to make them exercise in order to maintain health, but unless on full feed for some time this will not be necessary. Ordinarily the quieter and more comfortable they can be kept, the faster they will fatten."

Oil Meal Cakes.

The term oil meals, is quite misleading, for it happens that under the new processes of extracting oil from linseed and cotton seed meal almost every particle of oil is taken out, and the meals have actually less fat in them by three-fourths or one-half than ordinary corn meal. It is upon such delusive tests as this that the most of the evidence depended upon to prove the unreasonable assumption that food rich in fat has no effect on the quality of the milk is derived. The feeding value of the so-called oil meal now chiefly consists of the proteins contained in them, and this is a very large proportion. The new process linseed meal has 28½ per cent. of the nitrogenous substances in it and only 2½ per cent. or less of oil. This is an important change, as formerly this meal had 12 or 14 per cent. of oil and 32 per cent. of proteins. The same applies to cotton seed meal, which formerly had 18 per cent. of oil in it and now has but 2 or 3 per cent. The proteins were formerly over 40 per cent., but is now, of course, still larger in proportion. This fact has an important bearing upon the use of the foods, for the reason that the reduction in the amount of oil completely unbalances them as a safe substance for food. The large quantity of nitrogen they contain renders them more highly concentrated than they ever were, and as but few persons interested really know of the change that has occurred in their manufacture, they are not on guard against the risks of feeding the

meals. Such concentrated nitrogenous food is apt to have an exceedingly stimulating effect upon the urinary organs, whose office is to get rid of the surplus of the nitrogen compounds of the food from the system. Moreover, experiments have proved that the liver and lungs are seriously acted upon by this excess of nitrogen in the food, and these organs are apt to be disturbed, and unhealthy results may occur in consequence of this excitement. It is noteworthy in this connection to recall the more recent increase in lung disorders among high-fed cows, and the use of unbalanced and highly concentrated food is quite sufficient to produce such disorders. It is somewhat akin to the well-known effect of highly nitrogenous foods upon the Strasburg geese, whose livers are so greatly enlarged by the feeding, with, of course, a diseased condition of this organ, to such an extent that the birds are closely watched and killed at the moment when death becomes imminent from the disease. It is thus only safe to feed these meals in small quantities and with such carbonaceous foods as corn meal or middlings. Corn meal is now one of the richest foods in fat of all the ordinary feeding substances, but it is quite possible to use the whole linseed or cottonseed instead of the cake meals. Flaxseed has 37 per cent. of fat, and cottonseed 30.—*New York Times*.

To the Wool-Growers of the United States.

I have what I regard as reliable information that the project of free wool may be defeated in the United States Senate, if wool-growers will make their wishes known and their power felt. I especially urge you to organize in every State a Wool-Growers' Association, with subordinate associations in each county. Meet, publish addresses, resolutions, and declare your purpose to see that no free-wool advocate shall hereafter have any political office. So soon as free wool shall pass the House of Representatives, I will call a meeting of the friends of the wool industry at Washington, D. C., to take measures to be heard before the Finance committee of the Senate in favor of protection. Let us keep our flocks and fight it out on that line if it takes another Presidential election to secure our objects.

WILLIAM LAWRENCE,
President of the National Wool-Growers' Association, Bellefontaine, O.

Sheep Notes.

According to the returns received by the *Boston Commercial Bulletin* from a careful canvass the total yield of wool for 1893 is 364,156,666 pounds, the largest clip ever raised in this country. Of this 64,000,000 pounds came from slaughtered sheep. The next largest total production was in 1883, when the yield was estimated at 337,500,000. An increase of 40 per cent. in the slaughter of sheep during 1893 is noted. Prices on wool have fallen on an average one-third since last March.

Sheep must have exercise to make the wool grow long. They may be kept shut up tight and fed on grain and make fat, thick on the rib; but they must walk the fields to make blood and muscle and fleece. The oil or yolk follicles and the wool follicles are planted close side-by-side in the skin, and if the yolk follicles are overcrowded with grain feed they compress and dwarf the wool follicles and the fiber is short, though it may be true and sound.—*American Sheep Breeder*.

On the subject of cross-breeding to produce mutton Prof. Shaw writes: "In the choice of rams for crossing upon Leicester grades I would select those with dark faces. For mating with small ewes select from the larger breeds, as the Oxford, Hampshire and Suffolk; with those of medium types choose the Shropshire, and with those of larger types the Southdown. The mutton market of to-day calls for lambs not more than medium in size. At six months old there would be a marked difference in the size of Oxford grade lambs as compared with Southdown grades, in favor of the former, but there would not be nearly so much difference in weight. The

Southdown, if well nourished, would be ready for market first; but the Oxford grade would probably develop for a longer period under winter feeding."

New Jersey has the distinction of being the special poultry State. The poultrymen there perhaps best understand the economics of the business. They plaster their hen houses and make everything as pleasant and comfortable for the hens as possible, and they reciprocate by increasing the supply of eggs. Hens don't know much about gratitude, but they are so built that the egg-production must go on in the measure that the material is supplied and the conditions made favorable.

The question, which is the best hen for the farm, is likely to be answered as the one that lays the greatest number of eggs. That is evidently the fact if the object is to send all the eggs to market. The smaller they are the better, so that they pass the merchant's count. One hen lays twelve dozen eggs in a year that weigh eight to the pound—eighteen pounds; another lays ten dozen, six to the pound—twenty pounds in the year. The last is the more valuable hen to keep for family use and the former for producing eggs to sell to those who are foolish enough to buy eggs by number, not weight.

W. E. Chipchase, 224 S. Charles St., Baltimore, Md., found Salvation Oil a sure cure for sprains and inflammation.

Do You Study Politics?

Whoever studies political questions should read all sides. The official State paper, the *Topeka Advocate*, is still at the head of the reform movement, and is giving its readers a more reliable report of the situation in Congress than any other Western paper. It receives its information in the shape of editorial correspondence.

One dollar a year or 25 cents for a trial subscription. Address,
ADVOCATE PUBLISHING CO.,
Topeka, Kas.

Texas Wants You. You Want Texas.

If you like May weather in winter, apply to nearest agent of Santa Fe route. He will supply it in thirty-six hours. It is done by buying a ticket to Galveston or Houston. Perhaps less expensive than staying at home, because a big coal bill is saved.

Regular winter tourist tickets can be bought any day, but special excursions will be run the second Tuesday of each month from a limited territory to all points in Texas.

The excursion fare? Cheap enough—a little over a cent a mile; tickets good thirty days, with stop-overs south-bound.

The Gulf coast of Texas is a charming resort for invalids who don't like zero weather. Big attractions also for home-seekers; twenty acres of land there planted in pears nets the owner \$8,000 each year after orchard is established. Strawberries and grapes also profitably raised.

Talk it over with agent Santa Fe route, or address G. T. Nicholson, G. P. A., A. T. & S. F. R. R., Topeka, Kas.

California.

Ever been there?

It is an ocean of ozone for invalids.

A sea of sunshine for strangers.

A world of wealth for workers.

The Mid-Winter Fair (World's Fair, Jr.) ought to attract you to San Francisco in 1894.

Those who marveled at the displays in the California building, Jackson Park, should investigate further, by taking a trip to the Pacific coast.

It will be found that the half has not been told; the reality exceeds the promise.

You can go quickly, cheaply and comfortably over the Santa Fe route. A solid train all the way, running south of snow blockades, through picturesque New Mexico and Arizona.

Personally conducted parties every week, in tourist sleepers on fast express trains. Thousands have patronized them.

Very low round-trip rates now effective, good any day and on any train.

If you write to G. T. Nicholson, G. P. A., A. T. & S. F. R. R., Topeka, Kas., he will mail, free of charge, an entertaining book, "To California and Back," profusely illustrated.

It will inevitably confirm the latent desire to see California face to face.

Florida.

"Beauties of the East Coast" is the title of a magnificently illustrated book giving desirable information relative to the famous winter resorts of Florida. It is the most attractive description of Florida resorts and scenery ever published. Copies of the book may be had by calling at the Grand Junction ticket office, Kansas City, or will be mailed free. Address J. E. Lockwood, General Passenger Agent Memphis Route, Kansas City, Mo.

Agricultural Matters.

SUBSOILING.

EDITOR KANSAS FARMER:—Every thoughtful farmer has known for years that if he had a plow that would stir the under soil from eighteen inches to two feet deep it would be the most desirable tool on the farm. But the trouble has been that no such tool could be found that could be used in hard subsoil with any reasonable amount of power, and so, in most cases, the idea of subsoiling has been abandoned. Yet, just recently a subsoil plow has been invented which is very simple and inexpensive and is peculiarly adapted to run deep in the hardest subsoil with a moderate amount of power. In reasonably hard subsoil two good horses have run it fourteen inches below the bottom of the furrow of a common stirring plow. Allowing six inches as the depth which the stirring plow runs, this makes twenty inches from surface that is broken up and made mellow by the subsoiler.

This would permit the heaviest rains we have to quickly go down from the surface and be retained far enough below the surface to not be evaporated soon by the hot sun, and would be exactly in the right place for the growing crops. Besides, the next time the same ground was subsoiled it would be comparatively an easy job to go from four to six inches deeper, making two feet or more of mellow soil which would hold an immense amount of water, so that, during the rainiest seasons we have, the water would not run off into the creeks and rivers, taking much of our best soil with it, and causing widespread disaster to life and property by floods, as has always been so frequent in many parts of the country. But, indeed, the ground would retain the water for a long time and finally a portion of it would find its way gradually into the creeks and rivers through pure springs, which would break out in many places all over the country, and, verily, the earth would bud and blossom like the rose. Not only would the above be true, but the half has not been told of the good results that would follow the breaking up of all the subsoil of the whole country.

It is a most important thing to work in harmony with nature and nature's laws, and the subsoiler accomplishes that in a most remarkable degree. Nature has, for ages, been making the under soil solid, compact and hard, so that in many places it is nearly waterproof. Again, nature often supplies us with more rain than we think is needed, and then she often withholds the showers which we think so very desirable to have. And so we are apt to believe nature is not working altogether to our interest and best welfare. Yet I believe it is ourselves, and not nature, that is a little off. The hard subsoil, that has been getting harder and harder for ages, is all right, because, when this new subsoiler is used thoroughly in that subsoil, it makes the best reservoir possible for a bountiful supply of moisture and fertilizers. No danger of the bottom dropping out of it—and there is very little danger, if any, of ever getting an oversupply of water, except in a cloud-burst. And as for the hot, dry season, it would work no damage. And, really, all those heretofore dreaded seasons would be blessings when we work in harmony with nature. Another most desirable thing would result from possessing such a reservoir below the surface. It would tend to keep the surface of the soil cool and thus induce seasonable rains by condensation of the vapor in the atmosphere, which otherwise would be driven off by the heat rising from the ground. While a long dry spell would not be disastrous to the growing crops because of your reservoir, but on some accounts it would be a desirable thing. It would be a most favorable time to make war on weeds with sure victory. Still, frequent showers would not seriously interfere with weed-killing, because the water would go down so rapidly that it would not retard cultivation to any considerable extent. One great disadvantage in not having the ground subsoiled is, that in a long wet spell, the thin portion of soil that

has been made mellow by cultivation becomes so much soaked that it cannot be worked for some time after the rain has ceased, and often by that time the hot sun has baked it so hard that it is almost next to impossible to cultivate it with any kind of tool. Many a farmer has realized this fact. But such condition of the soil could not exist if you have made good use of the subsoiler.

Another point, which almost, if not quite, caps the climax, is, in my opinion, that this late invention of a subsoiler is the only kind of plow that is needed on the farm. First, it can be used without any furrow being made for it to run in, by using a rolling cutter on it. It breaks and loosens the ground in first-class shape to the depth of two feet or over at the second time of using it, and leaves the surface soil all on top, just where it ought to be, because it is the richest soil and therefore should be on top. The surface roots of all plants are the feeders. Other roots that go deep are mostly for moisture. Then the weed seeds, which generally are quite small in size if not in quantity, soon find their way down so low in the ground that they will never sprout or grow. Every time the soil is stirred and every time it rains, these little pests which have bothered, hindered and been really a curse, go deeper and deeper and by and by the time will come when the farmer and gardener and everybody else could say good-bye to them for good. So also he could say good-bye to the mould-board plow, because it is very poor practice to turn the soil over. Besides being a much more expensive way, it is many times more work and labor, both for man and beast. But rather, after having subsoiled the ground two feet deep, I would run a light gang subsoiler or agitator that would stir the soil forty-two inches wide at a time, twelve to fifteen inches deep, with one good team. If corn stalks or stubs and stubble were on the surface, a rolling cutter could be used to prevent the agitator from clogging, or, a cheap and simple tool could be constructed that would gather the trash into piles to be removed into a heap in a convenient spot to rot, and when fine, put back on the land, much easier and with less expense than to turn it under and the weed seed up where it will grow—for when it is turned under, much of it is just far enough under for the cultivator to catch it and make any amount of bother in cultivating, which makes a man weary.

The above are a few of the advantages of subsoiling and you can find at Perine's plow works, corner of Eighth and Quincy streets, Topeka, Kas., the most common-sense subsoiler yet out. It is remarkably well adapted to help remove the curse from the ground.

Topeka, January 3, 1893. H.

Sub-Irrigation.

EDITOR KANSAS FARMER:—In answer to "S. B.," of Pollard, Kas., whose article appears in KANSAS FARMER, November 29, will refer him to my article on "Plant Growth," in FARMER of February last, where a plan of sub-irrigation is given which has been in use to some extent in California. Only from one-fourth to one-third the water is needed in sub-irrigation as compared with surface irrigation by open ditches.

In California, however, side openings are made in the tiles. From my limited experience, no openings are needed if porous tiles are used. Tiles for this purpose should be not less than four inches in diameter, soft burned and very porous. Perhaps those made from porous sand or gravel and sundried would answer the purpose best. Under each joint lay a shingle or board, and keep them on a level. They will absorb the water when in excess and exude through the pores and joints into the soil when needed. The entrance can be at or near the well, and filled as needed, while the outlet should be closed with rags or moss.

The roots of plants will not fill them up any more than they fill drain-tiles. They do not seek water or very wet earth—only tend to seek moisture.

The distance of lines of tiles apart depends upon the nature of the soil.

Water does not circulate as free in sandy and gravel soil as in humus or rich soil. I refer, of course, to side, lateral or horizontal circulation.

Every farmer can try this plan on a small scale in his garden, from his well. The fall should not be over one inch in fifty feet. This is to avoid too great pressure. Tiles could be made from the clay in every county in Kansas, and should not be laid over six inches under ground.

Try this experiment and give the result in KANSAS FARMER.

JOHN C. BENDER.

Irrigation Reservoirs.

EDITOR KANSAS FARMER:—In irrigating with a pump, a tank is next in importance to the well and pumping power. The water must be stored until a sufficient volume is accumulated to make it spread over the land.

In the matter of tanks, the cheapest and simplest is the best. An earthen tank, from my observation, is the best, cheapest and simplest. A neighbor of mine made an earthen tank by making a sod wall of the size and height he wished his tank to be; then he hauled mud from a natural pond which he spread over the bottom and sides. He considers it more satisfactory than a wooden tank.

Along the Arkansas river, although the soil is somewhat sandy, reservoirs which hold satisfactorily are made by scraping up the loose earth for a wall and tramping the bottom until it is a puddle of mud. For irrigating, an outlet is made which will empty the reservoir rapidly. For watering stock, a pipe should lead to a watering trough, as stock would soon destroy the walls. Wooden reservoirs are expensive and must necessarily be small in size. Some have tried plastering the reservoir with cement, but cement cracks badly, and really is no better than a well-made earthen reservoir.

Chantilly, Kas. C. STIMSON.

Road-Making.

It is interesting to look back at the road-making of our great-grandfathers. In the older States many hundreds of miles of plank roads were built at a cost of \$1,250 per mile. Gravel roads were also built very extensively along the banks of rivers. One of the best types of the earlier roads built in this country was the charcoal road.

This style of road was generally laid through marshy forests. Timber was cut in twenty-four-foot lengths, and piled up lengthwise in the center of the road until the pile was about twelve feet high. This pile was then covered with earth taken from ditches on either side of the road. Then it was burned until the wood was perfectly charred, and then the pile was raked down to the width of ten feet, with a depth of two feet in the middle and one foot at either side. These charcoal roads became very compact and free from dust. The cost of building such a road was about \$660 per mile. All these early types of roads were used for the most part in the country districts.

Insects in Stored Grain.

In Bulletin 21 of the Delaware station the subject of loss to stored grain through insects is considered, and proves a very timely subject just now when farmers are asking themselves whether they ought to sell their grain at present low prices or keep it until later. According to the observations of the writer, the first indication that insects are injuring the grain is a decided increase in the temperature of the mass, as though fermentation was working the grain. In cold weather the insects do little harm unless the grain is stored in warm rooms. Then the insects multiply rapidly and do great damage. All of the insects, and their eggs and young can be destroyed by subjecting the whole mass to the fumes of bi-sulphide of carbon. If the grain bin is very tight the liquid can be placed on top of the grain, and the fumes will sink down into the grain, as they are heavier than air. The chemical is very inflammable and no flames should be placed near it. Some of the grain should be taken out of the bin so that half of it can be treated at one time.

Babies

ought to be fat. They are sickly when thin and thin when their food does not nourish them.

Scott's Emulsion

the cream of Cod-liver Oil and hypophosphites, makes babies fat and well, strengthens growing children and nourishes mothers. Physicians, the world over, endorse it.

Don't be deceived by Substitutes!

Prepared by Scott & Bowne, N. Y. All Druggists.

Experiment Station Work.

Bulletin No. 22, from Maryland Experiment Station, treats of experiments in steer feeding, by Robert H. Miller, Director. The following is the summary:

1. For fattening steers, a well-balanced ration is very much more profitable than a poorly-balanced one.

2. Steers fed a well-balanced ration made an average daily gain of 2.78 pounds; those given a poorly-balanced ration made an average daily gain of 1.7 pounds.

3. The increased profits from this test showing a difference of \$7.06 per steer in favor of a well-balanced ration.

4. With a well-balanced feed, ninety days is ample time in which to prepare an animal for market.

5. Where the more nitrogenous foods are used, it is believed nearly as good daily gains can be made by mixing the grain with cut corn fodder, as though hay were used.

6. The use of cut corn fodder instead of hay, in feeding cattle, may make the difference of a profit instead of a loss.

7. Fifty per cent. more manure was made from the animals receiving the well-balanced ration, than those receiving the poorly-balanced one.

8. The manure is also much richer in plant food.

Bulletin No. 47, Vol. IV, from Purdue University Experiment Station, C. S. Plumb, Director, Lafayette, Ind., treats of shelter for milch cows, and the skim-milk as food for calves. The following is the summary:

1. Other things being equal, dairy cows sheltered from inclement winter weather will eat less food than unsheltered ones.

2. Exposure to all sorts of winter weather will cause milch cows to give less milk than the same animals would if properly protected.

3. The live weight of unsheltered milch cows in winter will not be maintained so well as where they are sheltered.

Will it pay to feed calves simply skimmed milk, as has been done in the above example? The six calves consumed 9,345 pounds of skim-milk to make a gain of 598 pounds. This increased gain in this locality would sell for 5 cents a pound, or \$29.90. The milk drunk, estimating its market value at 15 cents a hundred pounds, would cost \$14.02, showing a difference of \$15.88.

The writer believes that a still greater gain would have been made by these calves if the fat removed from the milk had been replaced by flax-seed or some other substitute.

Dandruff forms when the glands of the skin are weakened, and if neglected baldness is sure to follow. Hall's Hair Renewer is the best preventive.

To California via Denver and Salt Lake City.

Patrons of the great central route weekly excursions to California via the Union Pacific can have their tickets read via Denver and Salt Lake City without additional expense. Send for folder giving details and advantages offered. F. E. Shearer, Manager, 191 South Clark street, Chicago.
E. L. LOMAX, General Passenger and Ticket Agent, Omaha, Neb.

The Farmer's Forum.

This department is devoted to the discussion of economic questions and to the interests of the Alliance, Grange and kindred organizations.

SANTA FE TAXES.

Readers of the KANSAS FARMER are aware that a few days ago the Atchison, Topeka & Santa Fe railroad passed into the hands of receivers appointed by the United States courts. It is further generally known that the officers of this road have not been satisfied with the valuation placed upon the property at the last assessment, claiming that it is too high. During the latter part of last week the news was given out that attorneys of this railroad were seeking to induce the several Boards of County Commissioners of the State to compromise and accept a less amount of taxes than is due under the assessment. These propositions are based upon the assessment of 1891, which it will be remembered created so much dissatisfaction that three of the members of the State Board of Railroad Assessors, who sought renomination at the hands of the conventions of their parties, were promoted to private life.

The railroad's side of the question has been given to the public by one of its attorneys, Mr. A. A. Hurd, and the State's side has been communicated to Senator Armstrong, of Barton county, by Attorney General Little.

Following is what Mr. Hurd says:

"In the matter of taxation outside of State taxes there is no doubt in my opinion but that the County Commissioners have almost absolute powers in the way of compromise and settlement of all disputed taxes. It has always been the accepted practice in this State in cases where for any reason a person's property has been unjustly taxed for them to apply to the Board of Commissioners at their January meeting when, if the claim was just, the board would make an order directing the Treasurer to accept in full the amount agreed upon as just and proper to be paid. This practice has never been questioned to my knowledge.

"In the present instance it is an admitted fact that the assessment of the A., T. & S. F. property was very much in excess of what it should be, not only as compared with other classes of property in the State, but also as compared with the values placed on other railroads in the State, and it has been repeatedly asserted by leading members of the present dominant political party that this was the result of the supposed interest which some of the officers of the road had taken in politics last year, notwithstanding the fact that there are many of the officers, as well as employees, who are members of each of the political parties.

"It was the intention of the road to bring suits of injunction in the courts to have the questions involved tested and passed upon and consequently the taxes were not paid at the usual time, but the appointment of receivers of the road having made this unnecessary, it was deemed desirable for the tax department to ascertain what, if any, compromise would be acceptable to the Boards of Commissioners in the several counties.

"Under the order of Judge Caldwell appointing receivers all persons are enjoined from in any manner interfering with the property of the company in the charge of the receivers or from levying any execution or other process (which would include a tax warrant) against the same. Under these conditions the only way for the several counties to collect the taxes levied against the company is to do so by a compromise such as has been suggested where all parties can agree and obtain an order from the court directing the receivers to make payment, or else for each county to intervene in the foreclosure case and ask for an order from the court requiring the receiver to make payment of the taxes levied, in which case the road would contest all unjust assessments and the court would render final decree in relation to the matter. As railroad property is taxed as personal property, the taxes are not a lien upon the property as is the case in real estate taxes, and consequently

all claims for taxes are junior and inferior to the claims of the bondholders, and in case of sale should the road not sell for enough to pay off the bonds and interest no taxes could be collected at all."

The Attorney General is of decidedly different opinion. He writes Senator Armstrong:

"I call your attention to Vol. 2 of the general statutes of Kansas, general section 6871, which provides: 'The property of railroads and railroad corporations shall be assessed annually in the manner prescribed in this act.' Section 6872 creates a Board of Assessors for the purpose of assessing railroad property, and said section and also section 6873 prescribe what property of the company shall be assessed by this Board of Assessors. Section 6874 and 6875 prescribe for the furnishing of a schedule by the company of all their property for the benefit of the Board of Assessors in order to arrive at the valuation of said property. Section 6878 does not make the schedule so filed by the railroad company with the Auditor of State conclusive as to the value of their property. This is the tribunal established by law to assess railroad property, that is all property used or necessary to be used for the convenience and daily operation of its railroads. There is no tribunal other than this for the assessment of the railroad property herein described. This Board of Assessors is established by law and they are given the exclusive power to assess railroad property and no other person or body can interfere with that assessment.

"Now the law has for the assessment of all other property directed that the Township Trustee shall be the assessor and there is no appeal from the assessment of the Township Trustee. There is no appeal from the assessment of railroad property by the board established by law to make the assessment. The Supreme court of Kansas has decided in Braden vs. Union Trust Company, 25 Kansas, 362, that the State Board of Equalization has the power when equalizing the various assessments made for taxes to equalize by increasing or decreasing the valuation of railroad property as well as by increasing or decreasing the valuation of any other kind of property. When this State Board of Equalization meets and has equalized the assessment of railroad property, as well as the assessment of all other property, there is no appeal to any court from their decision. There is no court in Kansas which has the power or the right to assess property. The law has established the tribunal for the assessment of railroad property, and when that assessment is made by that board, and the State Board of Equalization has passed upon the assessment and has adjourned, this fixes the value of all property for the purpose of assessment. Upon this basis all assessments are levied.

"I cannot see why the Board of County Commissioners of your county or any county will for one moment hear an application to reduce the amount of money which by reason of that assessment a railroad company is required to pay. The County Boards of this State have no power to enter into a compromise with a railroad company or anybody else to reduce the amount levied by law. Under the statutes all levies are made prior to the 1st day of November and on that day the County Clerk is required to turn over to the County Treasurer the books for the purpose of collecting the amount of such levies, and it becomes the duty of the County Treasurer to collect from each person or corporation the amount so fixed by law, and the County Treasurer has no power to receive one dollar less from any individual or corporation than that which they are required to pay; and if the County Treasurer receives less than the amount of the levy, he, therefore, becomes liable to the county and he and his bondsmen are subject to an action to recover the amount less than that which he permits them to pay."

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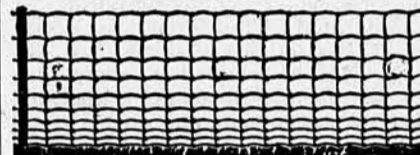
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IRRIGATION AGE.

Farmers in western half of Kansas who are interested in irrigation should notice our clubbing offer for the *Irrigation Age*. Two dollars, price of the one, will pay for both KANSAS FARMER and *Irrigation Age*. Send two-dollar bill.

We notice that many in remitting us for cyclopedia express an objection to cutting out the order as it appears in the KANSAS FARMER, as they wish to preserve the file complete. We would say, do not cut the paper, but write us your order, which will do as well. You need not copy it as it appears in the paper, but just tell us what you want. "We will do the rest."

The January report of the United States Department of Agriculture makes the area of wheat in 1893 34,639,000 acres, and the yield 396,131,725 bushels. The area of corn was 72,036,465 acres, and the yield of corn 1,619,494,000 bushels. The area of winter wheat planted last fall was 93.2 per cent. of the area harvested in 1893. This means a reduction of about 1,823,000 acres.

The "panic" and the "hard times" reduced almost all kinds of business to a minimum during the later months of 1893. We expected that subscriptions to the KANSAS FARMER would be reduced considerably below those of corresponding periods of former years. The reverse is the case, however, and our subscription receipts for December, 1893, are larger than for any other December of the record.

If any of our subscribers who are keeping a file of KANSAS FARMER miss a number at any time, we shall be pleased to supply it if we have any of the date required. It will cost the price of a postal card on which the request is written. In this connection we would suggest that you will do well to save the KANSAS FARMER, as you will always find it valuable for reference. We know of many who have complete bound files of KANSAS FARMER for past ten years, and a few who have all the numbers for twenty years past.

The annual meeting of the Farmers' Alliance and Industrial Union will be held in Topeka, commencing February 6, 1894. The sessions will be held in Representative hall, and it is expected that delegates from thirty-five States will be present. Each State is entitled to three delegates. Among the prominent Farmers' Alliance men who will probably attend are General Weaver, Ben Terrill, of Texas, Rev. L. Leonard, of Missouri, I. E. Deane, of New York, Mann Page, of Virginia, J. H. McDowell, of Tennessee, H. C. Denning, of Michigan, and possibly Governor Tillman, of South Carolina.

SOCIALISM, COMMUNISM, ANARCHY.

A good deal of confusion exists in the press, as well as in the minds of people, as to the terms socialism, communism and anarchy. Many writers for the political press allow their confusion of ideas to proceed so far—either willfully or ignorantly—as to use the three terms as interchangeable. Their correct meanings are fairly well set forth by the dictionaries, and these are here presented from Webster, in order that readers of the KANSAS FARMER may not be misled in the discussions of the near future in which these terms are likely to figure even more frequently than in the past.

Communism.—The reorganizing of society, or the doctrine that it should be reorganized, by regulating property, industry, and the sources of livelihood, and also the domestic relations and social morals of mankind; socialism; especially the doctrine of a community of property, or the negation of individual rights in property.

Socialism.—A theory of society which advocates a more precise, orderly and harmonious arrangement of the social relations of mankind than that which has hitherto prevailed; communism. See communism.

Anarchy.—(1) Want of government; the state of society where there is no law or supreme power, or where the laws are not efficient, and individuals do what they please with impunity; political confusion.

Spread anarchy and terror all around.—*Cowper*

(2) Hence, confusion in general.

There being then... an anarchy, as I may term it, in authors and their reckoning of years.—*Fuller*.

It will be seen that the first two of these terms under consideration are somewhat synonymous and are without great violence to their meaning interchangeable. It is to be noted, however, that the most prominent of the leaders of the more recent socialistic movements incline to restrict their doctrines so as to leave out propositions to change present existing domestic relations. This tops off what, a generation ago, constituted a large part of the doctrine of communism, and was the most conspicuous of the observable features of several religious communistic movements which were inaugurated. Indeed, it does away with what to conservative people was an insuperable objection to the plans proposed.

An adjective is now frequently used to qualify the term socialism, and the terms Christian socialism are not infrequently used in the pulpit and religious press. Christian socialism is, however, fairly well defined by the first part of Webster's definition of socialism, and, while it may contemplate a community of property—certainly a more equitable distribution of the products of industry—it contemplates preserving even more sacredly than now the relations of the family.

That a general change from the present organization of society to Christian socialism, involving a reorganization of property holding and of industry, would introduce conditions so radically different as to be scarcely conceived, is a reflection which causes conservatism to pause and inquire whether in fleeing "from the ills we have" we would not rush "to others that we know not of" more serious than even the present situation, which to hundreds of thousands—perhaps millions—is a case of desperation. But while conservatism and property interests hesitate, oppose, deride, ridicule, and even misrepresent, Christian socialism has its advocates who are thoughtful, conscientious, humane and aggressive, and are spreading its doctrines and arguing with an earnestness and force which is illy met by the methods pursued to prevent its acceptance by the people.

That this socialism is the exact opposite of the anarchy with which some seek to confuse it, is evident from a mere comparison of the dictionary definitions. Some of the Spanish-American nations, with their frequently recurring revolutions, their insecurity of life and livelihood, their lack of progress and their failure to enforce justice and order, present examples of semi-anarchy from which the Christian socialist recoils with even a greater dread than is manifested by conservatism.

The assertion that socialism can only prevail as a result of revolution is held by many on all sides of the question; that violent revolution may

mean anarchy is the fear of some; that the revolution can be effected by means of the ballot without violence or disturbance, and by regular process of law and equity, is held by socialist leaders.

This dispassionate statement of the situation is made without intention to influence the reader either for or against any doctrine, but simply to place before KANSAS FARMER readers correct information on a subject which is engaging public attention as never before in our history.

THE WIND FOR POWER.

In considering the questions connected with the utilization of the power of the wind for useful work on the farm, direction, as well as the velocity, is important. That enough power is available over every quarter section in Kansas to plow it several times in a year, if only the wind were properly harnessed, is not doubted by any who have given consideration to the subject. But plans for capturing and using the power of the wind have been confined to such devices as are adapted to light work—chiefly pumping such small amounts of water as are needed for live stock. The growing interest in irrigation, with its demands for power with which to raise, cheaply, immense volumes of water, gives rise to inquiries as to the best means of using wind power on an extensive scale. The light mills used for stock watering are able, when supplemented by a reservoir, to provide water for irrigating gardens and even considerable fields. But to meet the views of those who will engage in irrigation farming on a large scale it is probable that more powerful air motors will have to be provided.

It is generally conceded that, if the wind should blow always from the same direction, the problem of capturing and applying its power would be greatly simplified and a cheap device could be made to do heavy work. Even if the wind blew alternately from only two opposite directions the cheap motor might be used. Indeed, common observation has shown that so large a percentage of the winds of the plains are from the north or from the south that, in the western part of the State, a mill has been made to catch the force of winds from these directions, neglecting those from the east or the west. The latest annual report of Prof. Snow on the meteorological observations at Lawrence, Kas., shows that such a motor would utilize a large percentage of all the winds. Speaking of direction of the wind, he says:

"During the year [1893], three observations daily, the wind was from the southwest 280 times, northwest 170 times, south 155 times, north 132 times, east 114 times, southeast 103 times, northeast 81 times, west 60 times. The south winds (including southwest, south and southeast) outnumbered the north (including northwest, north and northeast) in a ratio of 538 to 383."

From this it appears that out of the 1,095 observations of the year only 174 found the wind blowing either from the east or from the west.

On the velocity of the wind Prof. Snow's report says:

"The number of miles traveled by the wind during the year was 139,820, which is 5,131 miles above the annual average. This gives a mean daily velocity of 382.02 miles, and a mean hourly velocity of 15.92 miles. The highest velocity was 60 miles an hour on April 19 and September 18. The highest daily velocity was 1,200, on the 20th of April; the highest monthly velocity was 15,080 miles, in April. The windiest months were March, April and December; the calmest months were June, July and August. The average velocity at 7 a. m. was 14.57 miles; at 2 p. m., 17.60 miles; at 9 p. m., 15.60 miles."

The efficient application of such wind velocity to any kind of work which may be done with a power as variable as that of the wind may be made to produce surprising results and is likely to claim more attention in the future than in it has received in the past.

Almost gleefully a Massachusetts Congressman cites prospective conditions which he suggests "will make an issue of government bonds necessary."

PROF. GEORGESON'S REPORT ON DAIRYING IN DENMARK.

Bulletin No. 5 of the Bureau of Animal Industry, now in press, will be ready for distribution, it is expected, by the middle of January. It consists of a report on the dairy industry of Denmark, by Prof. C. C. Georgeson, of the Agricultural college of Kansas. A preliminary report containing many interesting facts relating to the conditions of agriculture in Denmark, the importance of the dairy industry, increase in Danish butter exports, with some particulars as to the methods employed on some of the farms, and including a very interesting account of the Milk Supply Company of Copenhagen, was issued by the Department last spring. The present report consists of 133 pages, covering the same subjects as the preliminary report, only in greater detail as to methods of dairying, treatment of the butter, packing for market, together with detailed reports on several of the principal dairy farms and the co-operative creameries. Prof. Georgeson also treats of dairy bacteriology, the construction of ice houses, and devotes several pages to a description of the dairy cattle in common use in that country, and the improvement which has taken place in them as the result of more careful breeding for dairy purposes.

Applications for copies of this report should be addressed to the Chief of the Bureau of Animal Industry, United States Department of Agriculture, Washington, D. C.

LECTURES TO FARMERS.

The faculty of the Agricultural college has announced a partial program for the second annual series of lectures to farmers. These lectures will be on practical topics pertaining to agriculture, horticulture, stock-raising, dairying, veterinary science, farm architecture, farm accounts, etc., and will be given free to all persons interested.

The course will commence on Tuesday, February 6, and continue daily until Saturday, February 17. It is intended to give three lectures per day. Each lecture will be followed by a general discussion of the facts presented. During the course several evening lectures will be given on economic subjects.

The following is a partial list of the subjects to be presented by members of the faculty:

"Speculation in Farming," "Geology of Soils," "Nitrogen in Agriculture," "Farm Insects," "Insects of Orchard and Garden," "Home Grounds and Farm Buildings," "Farm Accounts," "Maintaining the Fertility of the Farm," "Stock Breeding—Laws of Heredity," "Stock Feeding," "Lameness," "Veterinary Obstetrics," "Colic in Horses," "Wheat Rust," "Treatment of Plant Diseases," "Cultivation of Orchard Fruits," "The Farm Garden."

Lectures on special topics by practical farmers and specialists will be presented. The following have been promised and others will be added: "The Irrigation Question," E. B. Cowgill, of the KANSAS FARMER; "Horse Breeding as a Component of General Farming," F. H. Avery, Wakefield, Kas.; "The Dairy Interest," J. E. Nissley, Abilene, Kas.

The invitation to attend the course is extended to all—old and young. The library and reading rooms of the college and its museums, laboratories, greenhouses, barns and class-rooms will be open every day, and everything will be done by the faculty to make the course profitable and interesting to all who attend.

All who propose to attend are requested to send name and address not later than February 1, to the President of the college.

It was proved by experiments conducted by Prof. Magruder on the Oklahoma Experiment Station farm, last year, that as much as five bushels of oats per acre were lost on account of smut. Experiments were also instituted to reduce the per cent. of smut, and to this end the Jensen or hot water method was used successfully. This consists in placing the seed oats in water at a temperature of 135 degrees Fahr.

The twenty-third annual report of the Kansas City stock yards shows that during the year 1893 there was received 1,660,807 cattle, 86,021 calves, 1,948,373 hogs, 569,517 sheep and 35,097 horses and mules, or a total number of 4,299,815 head of stock, valued at \$91,779,950. Kansas City is destined to become the leading live stock market of the world.

The breezy poem which we publish on page 7 of this issue, was written several weeks ago by one of our lady contributors, who, at the time, knew nothing of the internecine war raging with the present State administration, and while the poem appears in its regular turn, it may seem like an inspiration appropriate to current events. Yet we do not have the consent of the author to dedicate the little poem to Governor Lewelling.

A great fire occurred on the night of Monday, the 8th inst., at the World's Fair grounds, Chicago. The Casino, the peristyle and the Manufacturers' building were practically destroyed. Many of the foreign exhibits were still in the Manufacturers' building awaiting shipment. The loss is variously estimated up to \$1,000,000. The fire is supposed to have been started by two tramps who had a short time before been kicked out of Music hall by the guard.

The United States Civil Service Commission will hold an examination on January 24 to fill a vacancy in the position of horticultural and entomological editor, Department of Agriculture, at a salary of \$1,400 per annum. The subjects of the examination will be horticulture, economic entomology, French and German, essay writing and abstracting. Arrangements may be made to examine applicants in some of the large cities outside of Washington, if applications are filed in time. Those who desire to compete should write to the Civil Service Commission, Washington, D. C., and obtain an application blank. Men only will be admitted to the examination, and residents of the District of Columbia will not be admitted.

Secretary F. G. Adams, of the State Historical Society, announces that the eighteenth annual meeting of the Kansas State Historical Society will be held in the hall of the House of Representatives, at Topeka, on Tuesday evening, January 16, 1894, for the election of one-third of the members of the Board of Directors, and the transaction of such other business as may come before the meeting. Addresses will be delivered by the President of the Society, Hon. P. G. Lowe, also by Prof. E. B. Cowgill, Hon. T. D. Thacher and others. A meeting of the Board of Directors will be held at 2 o'clock p. m. of the same day in the east rooms of the Society. All members of the Board are requested to be present.

Speaking of the destruction of prairie dogs, Prof. Magruder, of the Oklahoma Experiment Station, says: "The means used to destroy these pests are numerous. Some practice drowning by pouring water in the holes, but this isn't practicable. 'Rough on Rats,' strychnine, arsenic and other poisons are often used. This is done by soaking some kind of grain in a solution of one of the poisons and placing it near the holes. There is some danger from this practice, as stock, poultry or birds are liable to get the grain. Another method used successfully by many persons is to roll a few small lumps of unslaked lime into the holes, then pour in water on this. The fumes act on the eyes and cause death. By far the most successful means employed is the use of bisulphide of carbon. This is not poisonous or corrosive to the skin and may be used without extra care, except that it should never be taken near a fire of any kind, even cigar pipe or match, as it is very inflammable and will easily explode. Also take care not to breathe it, as the fumes are not wholesome. To apply, saturate thoroughly a ball of cotton the size of an egg. Throw or push the ball as far down as possible, and then stop the

hole with earth. The bisulphide of carbon evaporates rapidly, and being heavier than air sinks to the bottom of the hole, filling it with fumes which soon smother the dogs. A half pint of the fluid will treat ten holes. Prof. Magruder suggests that that the application be made in the evening, when the dogs are in their holes, as in this way nothing will be lost."

THE HIGHEST PRICES OF CATTLE AND HOGS FOR FOURTEEN YEARS.

Table showing the highest prices for cattle and hogs from 1880 to 1893. Columns include Year, Cattle, and Hogs. Prices are listed in dollars and cents.

The Illinois State Board of Agriculture opened bids at Springfield, January 3, for the permanent location of the State fair. Bids were filed by the cities of Springfield, Peoria, Bloomington and Decatur, all offering at least one hundred acres of land, \$50,000 in cash and other requirements of proposals for bids. The Board will now visit the

cities, inspect the sites offered and make their decision at a future day. Springfield seems in the lead, its offering being one hundred and fifty-four acres of land, about fifty acres more than by the other cities, and this to include the present Sangamon county grounds, with buildings and improvements worth \$50,000. The race track—one mile—one of the best in the United States, is on these grounds. Wonder how much would be offered to the Kansas State Fair Association to make a showing?

Brown County.

EDITOR KANSAS FARMER:—The committee has mapped out an excellent program for a farmers' institute to be held in the court house at Hiawatha, beginning Wednesday, January 31, 1:30 p. m., and lasting through Thursday and Friday. Among the subjects to be considered I noticed the following: "How Can Farming Be Made Profitable Under the Existing Financial Depression?" "How Can Swine Be Kept Healthy?" "The Best Fence on the Farm;" "Poultry;" "Small Fruits;" "Marketing Farm Products;" "Stacking;" "Leaks and Losses That Can Be Prevented;" "The Farmer's Place in Politics." Judging from the names attached to each subject we may hope for a profitable institute.

Farmers are well advanced with their work. The weather has been exceedingly favorable for work. Our big corn crop has been safely garnered and much of it marketed already. Plowing, stalk cutting, etc., has continued until even now. Stock has been doing very well, with two drawbacks—(1) hog cholera, (2) many cattle dying in stalk fields of impaction of the stomach. The hogs dying has been especially hurtful, as our farmers this year have the corn to feed many hogs. Condition of fall wheat has improved since the freeze early in December. There are not nearly as many cattle fed as usual. Farm herds have also become too numerous with many of our farmers.

H. F. M. Carson, Kas., January 4, 1894.

Among the Breeders.

EDITOR KANSAS FARMER:—Some time ago I promised to write up my trip among the breeders of Short-horn cattle and Poland-China hogs. My first stop was at Wichita. Found R. S. Cook at home, building a new hog barn. He greeted me in a cordial way, as he does all, and took me to a pen where he keeps his little Chicago pets, and he told me what kind of feed made them so. After being of the best of blood, the finish he put on them was made with one-third oats and two-thirds chopped wheat. One of these, Longfellow, a grand hog, he had just sold to some parties near Kansas City for \$100, and a son of his was what I was after. After tempting Mr. Cook with an offer of \$40, then \$45, then \$50, for this one grand pig, he stood me off and refused the offer by saying he wanted to keep that pig to knock us down with next fall at the fairs. I was disappointed and mad. Found what I wanted but he had no price on him, but I will say he is the best pig I ever saw. Mr. Cook, I think, made a great mistake in selling his sire for \$100.

I expected then to go to Topeka, but being informed that Williams Bros.' Short-horn cattle were what I wanted, I went to Eureka to see. Found Messrs. Williams Bros. hearty and well, with some good cattle, but the bull I was looking for was not there, although he had some grand bulls. He bought two bulls of Col. Harris, \$400 and \$500 each, and prices low. I saw other herds of cattle and hogs.

I then returned to Wichita to see Mr. Wm. H. Ransom's herd of Short-horns. He had just what I was looking for in the way of a bull to head my herd and take my old bull Wichita's place, which is a hard place to fill and improve. But I feel this calf, Storm, I bought of Mr. Ransom, will take any bull's place. He is an April calf and tipped the beam at 823 pounds, and not fat. His sire weighs 2,200 pounds. I thought, "Now if I had that 'scrub' pig of Mr. Cook's," and as I secured this bull, I could go home happy, with the best. But as I could not secure that pig, I visited next Mr. Isaac Wood, Oxford. His trade has been immense this season and only a few hogs were left, which included a grand lot of sows and the boars that headed his herd. As soon as I saw Tip Top I was pleased with him and his get. He is a grand hog. I got him and came home and must go get some more wheat ground.

ELI BENEDICT.

Medicine Lodge, Kas.

Sugar Beets for Hogs.

EDITOR KANSAS FARMER:—I would be glad to know if any of your readers have tried feeding sugar beets to hogs. And if so, give a full account of the result and the plan that was pursued in feeding. If it has been tried and has been a success, the farmers of western Kansas may make a success in swine-growing. We need something to help make the hog other than corn or grain food. Some one give us your experience and opinion on the subject. Ford Co. SUBSCRIBER.

TABLE OF CONTENTS.

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AFTER LA GRIPPE

Comes Weakness, Catarrh, Cough, Bronchitis, and Sometimes Consumption.

The acute stage of la grippe generally passes in less than a week, but, unless Peruna has been taken from the first of attack, the patient does not get well. In the majority of cases it is weeks, even months, before the effects of la grippe leave the system. This can all be avoided by taking Peruna. Those who were so unfortunate as to not take Peruna when first taken with la grippe, and are suffering from the after effects of la grippe, should at once begin a course of Peruna, and not stop taking it until all of the bad effects of la grippe are completely eradicated from the system. If this is done, numberless cases of nervous prostration, chronic colds, bronchitis and consumption would be prevented and many valuable lives saved.

A MEDICAL BOOK FREE.

A book on la grippe, chronic catarrh, coughs, colds and consumption is now being furnished free by the Peruna Drug Manufacturing Company, of Columbus, O., when sent name and address.

Publishers' Paragraphs.

SEEDS THERE'S NO DOUBT ABOUT.—Alner Bros., of Rockford, Ill., are well and widely known as producers of pure, fresh and cheap seeds. It is said that one's plants are as certain to spring up as weeds are, if their varieties are planted. In their advertisement in this issue they offer their handsome catalogue free. It is certainly worth sending for.

We are in receipt of the descriptive catalogue of the Plant Seed Co., of St. Louis, of their line of pure vegetable, field and flower seeds, which they propose to furnish at as low price as any other reliable house. This splendid institution is worthy of patronage and will send their descriptive catalogue and price list to any of our readers who mention this paper when making request.

The Ladies' Home Companion, a semi-monthly periodical, with free cook book, has been for several years one of our most popular clubbing offers. It is equal to any dollar magazine published in America, and has increased in literary value as it grew older. The publishers have raised the price to double its former rate, and we are obliged to change our offer to \$1.60, instead of \$1.30, for the KANSAS FARMER and Ladies' Home Companion, with cook book free.

We desire again to call attention of our subscribers, whose term of subscription is in arrears, that a dollar sent now will insure their receiving every number of the FARMER as issued. If you desire to have a list of papers subscribed for, send us the names of papers required and we will send you a postal-card statement of cost, which you can then remit to us and we will order the papers for you. We can save you money on any combination of papers in the United States.

KANSAS FARMER has been advertising E. Krauser & Bro.'s (Milton, Pa.) Liquid Extract of Smoke, made from hickory wood, for smoking and preserving meat. It is claimed for this that the liquid when "washed on," that the meat smoked only a few hours will keep meat in a well-preserved condition, free from insects; that the meat is made more wholesome and pleasant to the taste; that it is prepared in less time and at less expense. One 75-cent bottle will smoke an ordinary butchering.

Horticulture.

SPRAYING ORCHARDS.

The fruit crop is so important in the list of crops of the farmer, having so much to do with the amount of his income and with the excellence of his living, so much to do with the health and well-being of people in general, whether living on the farm or in the town, that its protection from the attacks of destructive enemies is a question of the greatest importance. Our most successful Kansas fruit-growers have found great advantage from spraying as a means of destroying such enemies as have until recently almost defied opposition. Possibly some have thought these cranks, following a fad, in their enthusiasm for spraying. But wherever used, spraying rapidly advances in favor, and the questions among progressive fruit-growers now pertain rather to the details than to the advantages of this method of fighting insect and fungoid enemies.

The Cornell University Experiment Station, at Ithaca, New York, has addressed itself to the problem of making the most of spraying, and in its December, 1893, bulletin presents a report from which we copy freely. It says:

"Spraying orchards to protect the foliage and fruit from the attacks of insects and fungi may now be considered as one of the regular duties connected with the growing of apples. Those who have had experience in this direction are practically unanimous in saying that not only does it pay to spray apple orchards, but it generally pays well. Doubts as to the advisability of making applications to orchards are rapidly disappearing, and now arise the questions, what to apply, and how and when to make the applications. The following experiments were designed to indicate as accurately as possible what are the best methods of treating apple orchards so that fruit of the best quality may be obtained with the smallest outlay of labor and money.

"Description of the orchard used in the experiments of 1892 and 1893: The orchard of John J. McGowen was selected for the work. This orchard covers about two acres and is situated upon a strong clay loam. The land is moderately rolling, so that fairly good drainage is afforded. The trees were set in 1869, making the orchard now twenty-four years old. However, many of the trees first set have died at varying intervals so that the orchard is not uniform. Most of the trees used for filling vacant places are Baldwin, and many of these are now coming into bearing. Nearly one-half of the trees originally set and now in bearing are King; the other varieties in full bearing are Baldwin, Fall Pippin, Maiden Blush, Fallwater, Red Astrachan, Chenango Strawberry, and Westfield Seek-no-further. The last two varieties were not used in the experiments.

"The care which the orchard received from the time of setting has been as follows: During the first three years the land between the rows of trees was used for raising grain and hay. It was then seeded down and sheep were put in. The sod has not been broken since it was first formed. The trees have had an annual dressing of about a quarter of a load of barnyard manure per tree until the year 1890, when the quantity was increased to about a third of a load. The trees, as a rule have been regularly pruned and the old ones are now, with scarcely an exception, fine specimens of the varieties which they represent.

"The orchard has borne irregularly. What may be called the first crop was obtained in 1884. The yield was then large, possibly larger than the trees should have been allowed to bear, for on an average, about fifteen bushels per tree were harvested from the King. During the following years the crops were exceedingly light, but this year the orchard produced over three-fourths of a crop.

"The orchard was sprayed for the first time in 1890. London purple was then applied at the rate of one pound to 200 gallons of water. The first application was made about the time the blossoms fell from the trees, and the second about two weeks later. In 1891

only one application was made to the orchard, London purple being used as before. The first experiments carried on under the direction of this station were made in 1892. The entire orchard was then treated with various fungicides and insecticides. Some of the results obtained indicated the lines of work followed during the present year.

"Apple scab.—The apple scab fungus is probably the most serious enemy of the apple-grower. It has been determined that this fungus is active even before the leaf buds open, and that the little apples are attacked as soon as the flowers open, and probably even earlier. We have still to learn at what season the growth of the fungus practically ceases, and during what period the apples and leaves are most liable to its attacks. This may be determined in two ways: first, by studying the life history of the fungus, and second, by applying fungicides at intervals to the trees. If the last method is followed very thoroughly the results may be obscured by the more or less complete extermination early in the season of the fungus in the treated orchard. But if a few thorough applications made at the proper time will prove to be sufficient to protect the trees, the fact that the trees are thus protected is of great practical value, whatever the natural life history of the fungus may be.

"Points of merit in fungicides.—The relative merits of the most important fungicides now in use still require careful consideration. Cost, ease in preparing and applying, adhesive power, all must enter into any comparison which may be made; and of late a still more important factor has been added, namely, the readiness with which the fungicide may be applied in combination with the arsenites. The fungicide which surpasses in all the above points has still to be discovered, but some now in use possess most of them. Spraying need not be neglected from a want of effective material.

"Spraying machinery.—The machinery to use in orchard work is an important item. Spraying is hard work, unless the pump is run by horse power, and this can be used with profit only by owners of exceptionally large orchards. The vast majority of apple-growers are necessarily forced to use hand-pumps. These are now offered by the trade in almost endless variety, and selections are often difficult. Pumps of various descriptions have been tried at this station, and the following are some of the points which have been emphasized:

"The pump should be powerful. It requires double the amount of exertion to apply a given amount of liquid with a small pump that is necessary when one of ample size is used. In general, a pump used for orchard work should have a cylinder at least two and one-half inches in diameter, the stroke being from four to five inches in length. The handle should be long, as greater power can then be obtained. Working parts which are exposed to the action of the materials applied should be of brass, or else brass lined, for iron soon corrodes. The air chamber should be rather small, especially if the pressure of the liquid can be utilized in keeping the nozzle free from obstructions. In such cases, the one who pumps should be able to increase the pressure of the liquid in the nozzle by one or two quick strokes of the handle. A large air chamber defeats this. The pump used in the following experiment was the Gould 'Standard' No. 2. It worked satisfactorily, but is open to the objection of being rather small, especially when much work has to be done. It is manufactured by the Gould Co., of Seneca Falls, N. Y.

"Many pumps are supplied with agitators, but these have not proved so satisfactory as was hoped. It was found that those which stirred the liquid by means of a stream which was discharged from a return pipe near the bottom of the barrel did not keep the liquid in the entire barrel stirred, but only in that portion of it which came directly under the influence of the current. Another objection to this class of agitators is that too much power is lost. Paddles of various kinds have been recommended. They are attached

to the pump handle and with each stroke pass through a certain portion of the liquid. These do better work than the agitators mentioned above, but they also require considerable power. No agitators were used in making the applications mentioned in the following pages. The liquids were stirred with a stick as often as was necessary, which was commonly before each tree was begun.

"The improved McGowen nozzle No. 7 is the one used throughout the season. It is manufactured by John J. McGowen, of Ithaca, N. Y. The spray thrown is fine and forcible, and the nozzle gave no trouble from clogging. The pump was fastened to a barrel which was turned upon its side. The barrel was then placed in a light wagon and filled through a hole about six inches square situated at one side of the pump. The liquid was directed into it by means of a wooden funnel. Two persons worked together in making the applications; one drove and directed the spray, while the other pumped."

Experience With Peaches--Subsoiling.

EDITOR KANSAS FARMER:—As you invite communications on subjects of general interest, I will give a couple of results that I have noticed this season.

We have a young peach orchard. It bore its first full crop a couple of years ago. The trees were as full of bloom as they could hold. When the peaches set, there was often half a dozen in a cluster. When they were about the size of peach seeds we went through and pulled them off until they did not touch each other. But they then grew until they crowded each other and broke some of the limbs. When they ripened we had more bushels of fruit than if we had left all, and they were twice as large and a great deal better flavored, and the trees were not injured. Last year the peaches were all killed. This year there was a partial crop, some orchards full while there were others that had none. We had a good crop. We thinned again. When we were done the ground was nearly covered with the fruit we had pulled off, and the trees looked as if there was none left. What was left soon grew so that the space was all filled. The result was the same as before—larger peaches and better flavor. It is maturing the seed that injures the tree. Our trees are as thrifty as if they had not borne a crop. We have not had a tree to die, while many trees that bore so many two years ago are dead.

We are often asked how we do it. Our trees are now from ten to twelve feet high. We take step-ladders and pull them the same as we do ripe fruit. Some say it is such a tedious job. It does not take as long to pull them when small as when ripe—you can often catch several small ones at one handful. Our trees are now getting so tall that it will be difficult to reach the top of them. Is there any method by which we can shorten the limbs without injury to the tree, so that they will not get any taller? I think it was in the KANSAS FARMER that some one describes a method of cutting back peach trees.

Last spring I received a package of sugar beet seed from the experiment station. They directed that the ground should be cultivated as deep as possible. We had no subsoil plow. Instead, we used a shovel plow, following after the breaking plow and loosening the subsoil as deep as we could with it. Planted part in beets and the remainder in peanuts; also peanuts in the rest of the plat that was plowed in the usual way. While the peanuts were growing I did not notice any difference in the tops. When I dug them I found that those on the ground that was subsoiled had twice as many nuts as the rows that were not subsoiled. While those in the subsoil rows were nearly all mature, the others were not over half filled out.

Will others who have tried subsoiling please write and tell us what success they have had—what difference in the crop; how they manage; if the ground would dry out as soon as when it was plowed the common way?

D. M. A.

In the Dairy.

Conducted by A. E. JONES, of Oak and Dairy Farm. Address all communications Topeka, Kas.

Kansas Butter at the World's Fair.

The average June score on Kansas butter at the World's Fair was 94.54, leading Indiana, New York and Connecticut for that month.

The average score for July was 91.591, leading Minnesota, Indiana, Pennsylvania and New York.

The average for September was 91.96, leading Illinois, Indiana and New York.

October showed an average of 93.07, outranking Nebraska, Iowa, Illinois, New York, Vermont and Canada. Canada made only one exhibit, and that in October.

Following is the grand total of all the States represented, the score ranking in the order given, with a tie between New Hampshire and Nebraska:

| | |
|--------------------|--------|
| New Hampshire..... | 95.15 |
| Nebraska..... | 95.15 |
| Wisconsin..... | 94.53 |
| Vermont..... | 93.97 |
| Pennsylvania..... | 93.85 |
| Connecticut..... | 93.87 |
| Minnesota..... | 93.15 |
| Kansas..... | 93.025 |
| Iowa..... | 92.82 |
| Illinois..... | 92.72 |
| New York..... | 92.06 |
| Indiana..... | 92.03 |
| Canada..... | 90.62 |

The average score of all the States was 92.9; lowest score, 60; highest score, 100.

Number of entries, all States combined, 2,698.

The lowest score was made by Illinois



A. E. JONES.

Editor Dairy Department.

in July. The 100 mark was reached by New Hampshire, Vermont, Illinois, Wisconsin, Iowa and Minnesota. Kansas reached the 99 mark on one exhibit in June, and our lowest score was 78 in July.

Sulphur for Cattle Ticks.

The Mississippi Experiment Station has issued a bulletin, No. 14, in which there is an article on screw worms, and among other things it says:

"Nearly one-half the cases in cattle occur when ticks have been crushed. The great trouble is that the cattle are not kept free from these pests. The old manner of killing the ticks by the application of kerosene, sulphur or tobacco, requires more time than the average stock-raiser can give, and when the ticks are destroyed in this way it is but a short time before they are again abundant. The method of combating the ticks practiced by this station is by feeding sulphur with the salt. A covered trough is made in one corner of the pasture, and in this is kept a quantity of sulphur and salt, about half and half. When the supply is nearly exhausted the trough is refilled, and thus the cattle can get it whenever they may wish. Some claim this will cause rheumatism during wet weather, but no such results have ever been noticed, and when thus given the sulphur will keep the cattle free from the ticks."

This is certainly an easy method of keeping cattle free from ticks. Sulphur is eliminated from the body through the skin, and hence is very

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largely used in all skin diseases. In this manner it reaches the ticks better when given internally, rather than an external application.

Continuous Milkers.

The continuous milking habit in cows should be developed as far as possible. It is not a source of disease and impoverished condition of the young, as many suppose—such instances are more often the result of improper supply of the cow with foods that illy sustain all parts of the system. If the cow is well fed, not starved to reduced condition, as is often the case the few weeks preceding calving, there is no possible danger of milking a cow up to within a few weeks, even days, of her full time. It requires more food at this period to sustain the cow and embryo, but if the milking period can be prolonged for sixty or ninety days beyond the usual milking period of average cows, the returns will amply justify this outlay. That a cow needs six weeks of rest before calving may be desirable, as the "freshening" may be a great aid in bringing out udder development. While we may object, with some force, that continuous milking may in some cases be injurious, yet it is only by having cows that have a long and profitable milking period that we can expect to extend as we would wish the milking periods of the cows to be born in the near future, for we must rely upon heredity quite as much as feed and handling to fully succeed.—*J. G., Ohio.*

Dairy Notes.

Skim the milk as soon as the cream is all risen.

The best butter is made from cream that is only slightly acid.

Do not churn the cream so warm that it is loaded with cheese curd.

Inattention to any one detail in the management of milk or cream will often defeat the object aimed at.

One reason why creamery butter sells better than the average farm butter is because of its uniformity.

A mischievous, tricky cow will soon spoil many of her companions, besides transmitting her traits to her offspring.

The future success in the dairy will depend upon a more thorough knowledge of dairy cattle and their capacity for milk.

The man who is a slave to an old-time system of dairy management will generally be the first to grumble about low prices.

Whether to sell the cream, the whole milk, or to make butter, depends largely upon local and individual circumstances.

In maintaining an even flow of milk

throughout the season, the food must be uniform and the source of supply arranged so as to make it so.

The total solids in the milk are largely dependent on the quality of the food given, while the ratio of the ingredients depends upon the breed.

Whether the cows kept in the dairy are scrubs or grades, they can always be gradually improved by using a thoroughbred bull of a good milk strain.

The strainer should always be cleaned with hot water and a brush, so as to effectually destroy the germs that may be a source of fermentation or disease.

It is useless to have fine cows unless you are in a position to know that each cow is not only keeping herself, but doing her part towards keeping you and your family.

The point for every dairyman to determine is, what breed or grade, kept under the conditions he is working, will give the best returns for the care and feed bestowed.

Two of the most important items of a cow's diet are an abundance of good, clear, wholesome water and a constant supply of salt. If possible, let them have full access to both.

The maintenance of stock exclusively by soiling involves proper accommodations for the business to the extent of a plant especially adapted to it. But generally the better plan is to work to it gradually.

Since with the human family impure water produces fevers, dysentery and other kindred diseases, it certainly seems reasonable that giving the cow impure water would make unwholesome milk, if nothing worse.

Establishing a reputation for your butter is one of the best ways of counteracting the bad effects produced by the amount of poor butter marketed. Reliance on the uniformity of the butter largely determines its price.

Dairying is the one industry which has held up through the hard times. Butter is not bulled and beared by boards of trade like other farm products, and so its price is steady and not affected much by speculative successes or failures.

Do not "gather" butter in a solid mass in the churn; at least do not do it until the buttermilk is drained off, the butter granules washed thoroughly with water and the salt added and allowed to dissolve. After that "gather" it if you wish.

The best anodyne and expectorant for the cure of colds, coughs and all throat, lung and bronchial troubles, is undoubtedly Ayer's Cherry Pectoral, the only specific for colds and coughs admitted on exhibition at the Chicago World's Fair.

Get up a club for the FARMER.

The Poultry Yard.

The Origin of Turkeys.

Among the luxuries belonging to the high condition of civilization exhibited by the Mexican nation at the time of the Spanish conquest was the possession by Montezuma of one of the most extensive zoological gardens on record, says the *Washington Star*. It embraced nearly all the animals of that country, with others brought at great cost from distances. It is stated by historians that turkeys—called by the Spanish adventurers "a kind of peacock"—were furnished in large numbers as food to the beasts of prey in the Emperor's menagerie.

At that time the bird had been domesticated and reared in Mexico for hundreds of years. It was carried by the Spaniards to the West Indies, whence it was taken to Europe early in the sixteenth century. Before long it became in Europe highly appreciated for its flavor. Being known to be of foreign origin, a report gained ground that the fowl had been obtained from Turkey, that being a region little known in western Europe. In this way it obtained the name by which it has since been designated.

People coming to the United States from Europe brought this Mexican fowl to the United States, and the progeny of the stock thus imported and fetched back to the continent whence it was originally derived, furnishes Yankee tables to-day. In fact, the contemporary turkey of the barnyard did not belong here originally. It is not derived from the wild turkey of the United States, with dark meat on the breast and other differences plainly distinguishable. On the other hand, the wild Mexican turkey has white meat on the breast and resembles our tame turkey in all other points.

There are two species of wild turkey in North America. One is confined to the Eastern and Southern parts of the United States, which is quite another species, while the other is native to the Rocky mountains, parts of Texas, New Mexico, Colorado, Arizona, and extends along eastern Mexico southward. Zoologists were a long time finding this out, being puzzled meanwhile to account for the marked differences in color and habits between the wild and domestic birds of the

country. That a dark-meated fowl should acquire white meat through domestication would seem indeed surprising.

In its wild state the Mexican turkey derives nourishment from plants and insects, scratching with its feet for food. It is very shy. The birds live in families like wild geese, keeping sentinels on watch while the flock is feeding. They are so heavy that they are not fond of taking flight, but the swiftest dog cannot overtake them in running. The female lays from three to twelve roundish, red-spotted eggs, and hatches them out in thirty days. In Yucatan and northern Guatemala this bird is replaced by a third species, less in size, but more striking in appearance, the tail having spots somewhat like the "eyes" in the tail of a peacock.

Grit for Fowls.

After reading and hearing much about pounding crockery for fowls, I thought I would try the experiment, though with but little faith that the fowls would care much for such provender. It was a much-dreaded job; for I supposed I must pound up "a lot" and gather it up into a dish for them to pick at their leisure. But I found on trial that the stuff flew everywhere; so that business soon played out. Next, I took a flat stone into the hen house, with a hammer, and pounded away until I was tired. At first the hens paid no attention to the grit; but after a few days of confinement when the ground was covered with snow, I noticed that the broken bits of china had disappeared and it was not long before I had to drive them back for fear of pounding their heads, so anxious were they to get the hard grits. Broken glass and dishes were utilized, thus clearing the pantry shelves of useless rubbish.—*M. E. Allen.*

The great domestic standby, Dr. Bull's Cough Syrup, is now recognized to be a family necessity. Keep it handy.

Fancy Poultry Standard Seeds

Valuable Catalogue pertaining to Fancy Poultry and Standard Seeds. Tells all about Poultry and how to make a garden. Send 4c. in stamps. JOHN BAUSCHER, Jr., Freeport, ILLINOIS.

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