

Agricultural Matters.

BROOMCORN CULTURE—NO. 6.

EDITOR KANSAS FARMER:—As soon as the brush is sufficiently cured it should be baled and stored away from the light and air. Now don't fail to know when it is sufficiently cured. If you will follow the directions given in a previous number you will have no trouble, but if you don't, and tie brush up too green, you will pay dearly for the experience, for as certain as you tie brush up uncured, you will just that certain have an unmerchantable article. A seemingly well-cured brush, if you go by nothing but the eye, will sometimes come out of bulk entirely worthless. The degree of damage depends on the weather very much. Continued damp and cloudy weather is very much against getting a No. 1 color, and that is what you must work for. After the brush is matured in the field, or rather just coming in the milk, upon your knowledge and management depends the quality of brush you will have to sell.

However, in the absence of good dark storing room I prefer brush left on the shelf until disposed of. But in case it is left on the shelf more than eight or ten days after the last of the seed is cleaned off, better close up the ends by taking broomcorn stalks; the best is some that has not been tumbled. Blades should be left on, too, and string the butt end on wire long enough to cover or enclose one stall at a time. The stalks will keep out sunshine and rain and still allow plenty of air to circulate to complete the curing process. If a little care is taken in hanging these stalks, that is, hang them clear to the roof, and others below if they are not long enough, the brush can be left on the shelf indefinitely.

Broomcorn, when exposed to light and air, bleaches very fast, and when so exposed any length of time the value is materially affected. For that particular reason baled broomcorn should be kept well in the dark until ready to load in the car.

In baling broomcorn it is better to have it tied in bunches of eight or ten pounds, or what will cure on a four-foot shelf. In tying bunches always tie in a bow-knot. In handing bunches to baler, take hold of string with one hand, pull bow-knot out, still holding to the string, and with the other hand holding the brush end of the bunch, send the bunch, butt end first, against side of press or on a table as hard as you can, once or twice, and the bunch will go into the press all right. This is important and should not be lost sight of. Broomcorn cannot be baled right unless the brush is first prepared right. It is impossible to make nice square bales without first having nice square bunches to do it with. Don't trust the baling to disinterested parties. Now that the principal part, or in fact about all of the expense has been incurred, let it bear the marks of a careful hand. Pains should be taken that the bales are made compact and neat. The ends and middle should be kept full alike all the way up. About one bale of crooked brush in twelve should pass in with the straight and sell for the same, provided the color is as good. Before shipping, go over the ends of the bales with a pair of sheep shears and take off every projecting stalk and all straws that may mar the looks of the bale.

The right kind of a press is the most expensive part of the business. There is one thing you can rest assured of, and that is, you will not likely press it too tight with any kind of press. I commenced with a hand press, and next to a common horse press and then to Ertel's beater press. This is one of the most powerful presses made, in which broomcorn bales can be made that if tied with five or six No. 9 wires will ship any place and retain their original shape. But no matter what kind of press is used, don't make bales to weigh over 250 pounds. I did not use the beater in baling broomcorn. A bale should be nearly square, when pressed, in width and depth. Put in a false bottom in order to get your bales the right depth. When tying always tuck the end of the wire into the bale

to prevent its catching in and tearing brush out of the bales you may be sliding it over.

In loading bales in the car, provide a six or eight-foot board, smoothed on both sides, to put top bale in place. The Ertel beater press will enable you to load nine tons in a car, while the hand or common horse power will only load from five to six and a half tons. Broomcorn loosely baled is bad stuff to send away from home. "Pi" is the term applied to it after the first transfer, and, generally speaking, it well merits the name. I once went through a broomcorn warehouse in Baltimore. I learned a lesson there worth more than the expense of the entire trip.

Now, don't forget: Light presses must make small bales. Don't slide your bales lengthwise over each other. Avoid any mode of handling that will ruff up the bales. They will get ruffed up enough before reaching the market, anyhow.

A. H. COX.

Quincy, Greenwood Co., Kas.

Shall I Sow Alfalfa?

EDITOR KANSAS FARMER:—Every person who keeps cows knows that bran is excellent feed for them, and liberally fed produces a good flow of milk. But as the price of bran has advanced so within the past few years we cannot afford to use it, how can we do without it? Answer—Raise alfalfa.

The desirable quality in bran is proteine, of which it contains 11 per cent. digestible, or eleven pounds in 100, for which we have to pay about 60 cents to \$1.

Alfalfa, cut before heading, contains 21 per cent. proteize, or nearly twice as much as bran, and on ground suited to its culture will yield about three crops of from one to one and one-half tons per acre, making three to four and one-half tons per acre for the season's crop, equal to about seven and one-half tons of bran per acre in feeding value.

Brother Dairymen, can you afford to neglect such opportunities? If you should raise alfalfa, do not attempt to feed your horses on it alone, any more than you would on bran, nor as much, as it is richer.

B.

Cimarron, Kas.

Farm Wages.

EDITOR KANSAS FARMER:—Judging by the editorial in March 28, the inference would seem to be that an effort was being made to hold up wages by farm hands.

While we do not believe in farmers combining, as we have known them to do, to put down wages, neither do we know of any attempt at combination on part of farm hands, and we have found them ready to work at any time. As a farm press writer, we receive many letters inquiring for work, and we could not cite them to any, as the local supply seems almost everywhere above the demand.

We would say in answer to your query, that the printer would be about as much use on the farm as we would be in the printing office. While we served a short apprenticeship in a printer's office, we would have no thought of seeking work there to-day, and the KANSAS FARMER should know that farmers have no use for printers. Is it not known yet that a man must know something of his business?

We would like to know if that young man who is making a great name as a writer, is a writer for the farm press. If he is and cannot take hold of farm work anywhere, we do not care to read his writings. We want practical men. We have had too much now of theoretical, as practiced by some of our would-be professors of agriculture. We want the best educated men, but we must have practical knowledge.

Winview, Okla. J. M. RICE.

[The editorial referred to had in it no suggestion of an attempt on the part of farm hands to hold up wages.—EDITOR.]

An Imperial Stud.

His Imperial Highness' horse breeding stables are located at Doorbrooka, Russia. They use the Perfect Impregnator, sold by Specialty Manufacturing Co., Carrollton, Missouri.

Get up a club for KANSAS FARMER.

Kansas Farms.

The Kansas Labor Commissioner has prepared for the press the following statement as to his forthcoming report:

"It is determined that in the last ten years Kansas has produced 307,704,825 bushels of wheat, the value of which was \$158,474,628.75. That had wheat maintained its price of the five years ending January 1, 1884, this same wheat would have been worth \$246,344,800.52, or a net loss to the farmers of the State occasioned by decline in price of \$87,874,191.79. Also during the same period the amount of corn produced in Kansas was 1,473,906,318 bushels, the value of which, at local shipping price was \$305,974.02. The value of this same corn, at the general average price for five years ending January 1, 1884, would be \$433,856,864.78, or a net loss of \$147,882,831.74 to the growers of corn.

"The total amount of mortgages on farms in Kansas, according to the census of 1890, is \$167,145,039. On wheat and corn the total loss during the ten years in which this mortgage debt was mainly contracted was \$235,753,023.53, or an amount that exceeds the entire mortgage debt by \$68,607,934.53. In this connection if the critic shall assert that our figures demonstrate the substance of things hoped for and are evidence of things unseen, he will be reminded that the unseen causes, which diminished the debt-paying power of two products of the State by \$235,000,000 in ten years, is plainly visible and its results very apparent.

"In the 106 counties given in this report there were 184,410 farm houses, and unoccupied tillable land enough for double that amount. Of this number, however, 104,517 farms are cultivated wholly or in part by owners, while the tenant farms reach the stupendous number of 79,896, or nearly 43 per cent. of the entire farming population. An estimation of the value of farm products consumed yearly by a farmer and his family of five persons is found to be \$232.08, as based upon averages from 1,016 prominent farmers residing in as many different townships of the State. The earnings of a farmer and his family, five in all, is \$561.95, as based on estimates from the same number of responses mentioned above.

"The total number of persons out of employment on January 1, 1894, was 111,516, which total will be found classified under the heads of farm laborers, day laborers, mechanics, female help and all others.

"From this department was sent 1,918 letters to as many different farmers in the State, asking among other things this question: 'Taken as a whole does farming pay? Why?' To this query, 1,292 of the 1,523 townships in the State responded, and which response tersely given, will be found in the work submitted herewith. It will be interesting to curious people to know that of that number 1,251 answered emphatically "no," while the forty-one who answered "yes," qualified the statement with one or more adjectives. The universal testimony being that farming does not pay because of low and continually declining prices. The price of wheat has at no time during the past ten years, reached the general average price of the preceding five years, and the same is true of corn for eight of the ten years.

"It is ascertained that the average cost of producing a bushel of wheat in Kansas is 63.2 cents, while the average local shipping price paid for wheat for five years ending January 1, 1893, is 58.6. The price of wheat in Kansas, as well as in other States, shows a steady average decline for two decades. In 1883 it had declined in value till the price received scarcely equalled the cost of production and in 1884 it crossed the danger line. It is a notorious fact that except in 1888 and 1890, and in a few localities in the State in 1891, wheat has been produced at a loss in Kansas for the last ten years.

"In table No. 4, is shown by States, the percentage of unoccupied and of farm lands comprising the superficial area of the United States. In this Kansas has 59 per cent. of unoccupied land, 20.6 per cent. of productive land, 1.9 per cent. of woodland, 18.5 per cent. of unproductive farm area.

"Then follows table No. 5, showing

Watch your Weight

If you are losing flesh your system is drawing on your latent strength. Something is wrong. Take

Scott's Emulsion

the Cream of Cod-liver Oil, to give your system its needed strength and restore your healthy weight. Physicians, the world over, endorse it.

Don't be deceived by Substitutes!

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

the percentage of each kind of land included under the head of farm land in table No. 1. In this Kansas has 40.6 per cent. of tillage land, 9.6 per cent. of grass land, 4.6 per cent. of woodland, and 45.2 per cent. of land either unproductive or not utilized. Then follows table No. 6, showing by States the average yield of corn and wheat per acre for ten years. In this Kansas again sweeps to the front with an average yield of 28.3 bushels of corn per acre, which is 16.9 per cent. above the national average.

"On wheat, Kansas makes a showing of 13.3 bushels per acre, which is 8.1 per cent. above the national average."

The Division of Grasses.

The United States Department of Agriculture has just issued the following announcement:

The recent determination of Secretary Morton to secure the services of a capable agrostologist, whose entire time should be devoted to the subject of grasses, has resulted in the selection of Prof. Frank Lamson-Scribner, who has accepted the position offered to him.

There are no means for estimating, with any degree of accuracy, the total value of the grass production of this country, but the value of the average hay crop exceeds \$400,000,000, and while no data are available to estimate the annual value of the pasture lands, it is clear, that, added to the hay value, a total grass product will result probably more valuable than any other single crop in the country. The importance of collecting and imparting useful information regarding our grasses is therefore evident. The duties of the agrostologist are thus summarized in a letter in which the place was tendered to Prof. Scribner: * * * "The identification of grasses and the investigation of forage plants in this department; * * * to prepare monographs on grasses; care for the grasses of the herbarium; to identify such as may be sent here for that purpose; to conduct correspondence on this subject, and to have charge of any special investigation of grasses and forage plants which may be undertaken by this department."

The manner of Prof. Scribner's selection for the place testifies strongly to the high place he holds in the estimation of the leading botanists in the country. As soon as the creation of the place was decided upon, letters were addressed to twenty-four of the leading botanists in the country, advising them of this intention, and they were invited to suggest the names of persons whom they regarded as best fitted for the place. Ten of the parties so addressed replied recommending Prof. Lamson-Scribner, and four others speak of him as the right man, provided his services could be secured. Among those highly recommending Prof. Scribner are: Prof. Charles E. Bessey, of University of Nebraska, who speaks of him as "the one person above all others whose services the department should secure if it is possible." Dr. J. Bernard Brinton, of Philadelphia, who pronounces him "the best

Irrigation.

HOW TO IRRIGATE.

The canal must be extended entirely across the highest line of the field, and from it furrows should be struck out along the direction of the lightest grade, and at distances, say, of about twenty-five feet apart. Then cross furrows should be plowed in the opposite direction and at the same distances. The field will now be cut up into a series of squares formed by the furrows.

Now open the main canal with a shovel opposite the head of each of the first plowed furrows, and regulate the flow of water so that it shall be equal in each. This may be done with stones, bits of board, handfuls of weeds, brush, etc., placed in the openings to prevent an undue quantity of water finding its way through any one aperture and so washing gullies in the soil. It is here that the beginner in irrigation is apt to err the most. He reasons that if a little water is good a great deal must be better, and so he turns on a full head, lets the stream get away from him, and soon he has his field gullied and washed in the most unsightly and destructive manner. A small stream handled improperly will do a surprising amount of damage in a very short time.

SUBSIDIARY CANALS.

Where the supply canal is large and the banks thick, it is well to divert the water from it in only one place. A shallow subsidiary canal may be made parallel with it, into which sufficient water is allowed to flow to supply the furrows. It is very easy for a stream to get beyond the control of the irrigator, and in order to prevent this he must watch the aperture in the canal bank closely and take measures to prevent this. In the most primitive forms of irrigation the shovel is relied upon entirely for regulating the flow of water, but a step in advance is made by putting in wooden boxes at such places, with a simple gate or board sliding between upright cleats, by which the exact quantity of water desired may be diverted, without danger that much will force its way through.

With a uniformly level field cross-furrowed in the manner indicated, and the water allowed to run steadily but not in too great volume, one man with a shovel can regulate the spread of the water so that each portion shall be thoroughly saturated. Of course, if there are elevations or knolls they must be leveled so that the water may reach every portion of the ground.

APPLICATION OF WATER.

The next step in irrigation after that just described, just as it is the next logical step in the development of any portion of the arid region, is the application of the water to growing crops, such as alfalfa, vegetables, etc. Except where alfalfa is made a specialty and is produced upon a large scale, few farmers devote more than fifteen to twenty acres to it, and frequently five or ten acres are all that is required. So prolific is this grass that an inconsiderable area is needed in order to provide sustenance for all the animals kept on an ordinary farm. The best site for an alfalfa patch will be found in a location where the grade is very slight and the surface of the field is almost level.

If there is any unevenness it must be leveled so that the water may flow readily over every part of the field. Nothing is so fatal to alfalfa as to deprive it of the needed moisture, and a field that is at all uneven will present a series of unsightly patches upon which no grass grows, surrounded by the luxuriant green growth wherever the water has reached. If the grade be slight, an exceedingly convenient method of irrigating will be found in what is known as the check system. This consists in surrounding the field with a low embankment of earth some eighteen inches or thereabout in height, and continuous throughout.

At the highest point an opening is made through which the water is allowed to pass until the surface is completely covered to a depth of several inches. It is almost impossible to give

alfalfa too much water, but if the soil refuses to take up all that has been turned on, an opening may be quickly cut on the lower side of the levee and the surplus water drawn off. Where the field is large it is usual to divide it into a number of checks, each comprising from five to twenty acres or more, according to the "lay of the land." When the first check has had sufficient moisture the water is allowed to run into the next, which is saturated and then the water flows to the next check, and so on until the entire field has been supplied.—Geo. F. Weeks, in the *Irrigation Age*.

Sub-Irrigation.

EDITOR KANSAS FARMER:—This is of the greatest importance to all farmers. The advantage of sub-irrigation over surface irrigation, by large open ditches, is the saving of one-half of the water. It can be used on any kind of high undulating lands in small tracts where you have wells, cisterns, ponds or creeks and waste water from barn or house. The experiments so far have been made with two-inch and over iron pipes, one end closed and the other end open, and turned up even or a little above the surface of the ground where the water is let in. The lower parts of each side of the pipes are punctured with holes to let out the water. They are from six to ten inches under ground, and four to eight feet apart, depending on nature of the land. If drain tiles are used have them not longer than a foot nor less than four inches; place a shingle or board on the bottom where the joints meet and keep them level. Do not use cement at the joints. Lay close as you can. Need not puncture the sides; the joints will let out the water as needed by the soil. You can close up both ends and supply water anywhere along the tile to suit your convenience, or you can supply from either end by an elbow of same material. If it rains too much and soil cannot absorb the water, the tiles fill up; if you open the ends it will act as drainage. If it is cheaper to use half-round tiles, do so. They answer just as well. In Mexico they have a sun-dried, half-round tile, both for drainage and roofing. These could be made in every neighborhood where the proper clay can be found, and could be sun-dried or burned. They should not be burned hard or glazed, but should be thick and porous.

Moisture that reaches plants from below the surface does so by capillary attraction, and is better for plant growth than water on the surface, which enters the soil by gravitation, and has a tendency to pack and harden the land. Water that ascends up through the soil loosens the land. A good way to test this mode of watering is to take all your old crocks, vessels and old tin cans that are leaky and worthless; set them in the ground in some strawberry or garden plot, eight or ten inches in the ground; set in ground tight, cover top and then cover with soil even with surface. If the vessels are to remain for sub-irrigation purposes, connect them by tube with surface.

Investigations now being made show that plants and trees get nothing from the soil—all comes from the atmosphere, and cultivation must be very shallow—no turning over the soil; that the roots of plants and trees should remain in the soil, which gives the land its physical texture, drains it and loosens it, and the surface of the land must never be bare—always covered with vegetable or tree growth or with vegetable matter. Land exposed to the sun becomes barren. When covered with vegetable matter it constantly increases in fertility.

JOHN C. BENDER.

St. Joseph, Mo.

Climate and Crops Just Right.

Oklahoma has thousands of acres of the finest farming land in the world, waiting for you or anybody else with a little cash and lots of gumption. Climate crops are just right. Farms will cost more next year than this. To find out if this is the country you want, ask G. T. Nicholson, G. P. A., Santa Fe route, Topeka, Kas., for free copy of Oklahoma folder.

Get up a club for the KANSAS FARMER.

DANGERS OF SPRING.

You May Be the Victim of Them.

SO BE VERY CAREFUL.

Here Are Some Valuable Suggestions for Both Men and Women at Just This Season of the Year.

"I ought to take some spring medicine; I must take something, I feel so miserable." Such a remark as this is often heard at this time of the year. Nearly every one seems to feel the need of some remedy, because the passing from winter to spring, with its resulting changes in clothing, food and exercise, has a very trying effect on the system. After the severe strains of winter, the health of most people is not so good as it ought to be. The appearance of warm, spring days finds them weak and debilitated, feeling the need of tone and strength.

This is the reason why so many people are now complaining of tired, irritable, languid feelings. They wonder why it is they have these distressing symptoms.

The best physicians say that this weak condition is caused by the liver being out of order. There is too much bile in the system. This brings on dyspepsia and other miserable feelings which make life a burden.

When the liver is irregular in its action the complexion becomes pale and sallow, there is a sense of oppression after eating, bloating and biliousness. Backaches, side-aches and headaches depress the spirits, making the sufferer feel discouraged and despondent. It was to cure these disorders of the system that Warner's Safe Cure was specially designed. In the most trying cases this great remedy never once fails to give prompt relief. It is popular everywhere, because it is always reliable and effective. For the past fifteen years Warner's Safe Cure has been before the public and achieved a success never equaled in the history of medicine, not only in the United States and Canada, but in Great Britain, Germany, France and Australia. The greatest physicians have strongly recommended Warner's Safe Cure, because it is a purely vegetable compound, containing no harmful drugs or opiates, and because it does exactly as represented. It permanently cures all kidney, liver, urinary and nervous disorders. It builds up the system and gives new life.

When you are without appetite, are constipated, have a coated tongue, a nasty taste in the mouth, sick headache, pains under the shoulder blades or in the region of the kidneys, your liver is out of order. You feel nervous, despondent, lack your accustomed energy. The safe cure will relieve all these symptoms. It will make you strong and well.

Now is the time to put the system in sound condition. This is the season to lay in a stock of health to carry you through the year. Nature demands the use of a powerful and timely remedy. The testimony of the thousands who owe their health and strength to the great safe cure above mentioned proves that it is the most effective remedy, the most reliable and the best.

Kansas Irrigation Association.

The following circular has been issued by order of the Executive committee:

On account of the great demand for copies of the proceedings of this association at the Wichita convention, last November, arrangements have been made to have them published at once in pamphlet form, octavo size. We want every one who is interested in this great work for the redemption of the State to become a member of this association by sending \$1 at once to H. V. Hinckley, Assistant Secretary, Box 242, Topeka, Kas. This will entitle the sender (1) to a receipt for that amount; (2) to membership for the year; (3) to ten copies of the proceedings for distribution where they will do the most good. Those who paid for membership at Wichita will receive their ten copies, or by sending another dollar can have twenty-five copies. Remit if convenient by April 20. We hope to issue the pamphlets about May 1.

D. M. FROST, President.

J. E. FROST,

Chairman Executive Committee.
E. B. COWGILL, Secretary.
Topeka, April 10, 1894.

Get up a club for KANSAS FARMER.

Gossip About Stock.

Every farmer and cattle-breeder should endeavor to attend the great Hereford cattle sale that takes place next Wednesday, the 18th, at Chillicothe, Mo. On reference to the catalogue, which is one of the most complete ever issued by the breeder, the reader will find that the thirty offerings are of the best ever bred on American soil. The success of breeding thoroughbred stock depends, in a great measure, on the interest manifested by the professional breeder, no matter what breed or kind he may be engaged in breeding. A careful investigation of the list of offerings, as presented by Mr. Sotham, at once confirms one in the belief that he has spared nothing in the building of the herd. Go and lend that encouragement that every breeder expects and should have, even though you are not a buyer.

Isaac Bowles, the well-known breeder of Chester Whites, at Burden, Cowley county, writes: "My herd of Chesters have come through the winter in fine condition. Our brooders are farrowing, and last week seventeen new arrivals that, I think, promise as well as any I ever had on the farm. My spring crop promises well, in fact, they ought to, when the breeding and top conformation used are considered. I have added to the harem a very fine boar that I lately purchased of E. A. Staley, of Ottawa, Kas., that I intend to use on my young sows in place of Kansas King 5240, that I could use no longer. He weighed over 700 when I sold him to go into good hands." The reader will remember that this herd won at the Cowley county fair last fall, in strong competition, four firsts, two seconds and sweepstakes on herd. No better foundation stock and the recruits added to the herd from time to time can be found in the United States.

The well-known and reliable firm Messrs. J. B. Vanleave & Bro., of Lake City, Mo., importers and breeders of Spanish and American-bred jacks and jennets, write us that they "have just made three more sales to Kansas breeders. Two toppy fellows went to M. M. Shirley, Grantville, Kas., at \$800 and \$900, and their noted breeding seven-year-old Clinton went to T. A. Ruggles & Co., Jewell City, Jewell county. In order to save our prospective customers in northern Kansas and southern Nebraska time and expense, we have placed ten of our very best at Salina, in charge of Mr. T. A. Vanleave, also six toppy good ones at Hoxie, Sheridan county. Salina is centrally located in the State and easily reached by rail from all points in Kansas. Hoxie is located very favorably for buyers that are residents of northwestern Kansas and southwestern Nebraska. We desire to say further through the columns of the KANSAS FARMER, that has brought us into favorable notice with the stockmen and farmers of Kansas, that we are much pleased with our many patrons and hope to sustain our already good reputation for fair dealing and reliability as breeders and importers." The KANSAS FARMER fully appreciates the compliment extended and hopes that its usefulness may further extend the acquaintance of the Messrs. Vanleave and better times may soon come and advance the business prosperity of this successful and reliable firm.

Our First-Page Illustration.

The illustration on first page was furnished us by D. Hill, the evergreen specialist of Dundee, Ill., whose advertisement appears in this paper. It represents Mr. Hill's nursery exhibit at the World's Columbian Exposition, Chicago, 1893. This exhibit consisted of over 6,000 hardy evergreens in forty different varieties, besides many beautiful ornamental trees and shrubs, arranged in a most artistic and pleasing manner, and was admired by millions of interested visitors, and the highest honors were deservedly awarded to Mr. Hill's exhibit. But however interesting this illustration may be to our many readers, and especially those that were fortunate enough to have seen the greatest and grandest sights the world ever witnessed at the World's Fair, can get but a faint idea of the immensity of Mr. Hill's evergreen nurseries, which are by far the largest in the United States, if not in the world. His evergreens are grown with a view to the wants and needs of the various States for wind-breaks, shelter-belts, hedges and ornamental purposes. Nothing will enhance the value and add to the beauty and comfort of your home or farm more than a beautiful wind-break, shelter-belt or screen with some of the various varieties adapted to your locality.

With Mr. Hill's improved method of packing, evergreens can be safely sent 2,000 miles as well as twenty. They are offered at reasonable prices and guaranteed to give satisfaction. A World's Fair souvenir, a beautiful blue spruce, free to every customer for 1894. Illustrated catalogue is free. Be sure and send for it.

Hall's Hair Renewer contains the natural food and color matter for the hair, and medicinal herbs for the scalp, curing grayness, baldness, dandruff and scalp sores.

The Family Doctor.

Conducted by HENRY W. ROBY, M. D., consulting and operating surgeon, Topeka, Kas., to whom all correspondence relating to this department should be addressed. Correspondents wishing answers and prescriptions by mail will please enclose one dollar when they write.

Surgical Emergencies.

(NUMBER 16.)

A buzz saw has always been considered such a dangerous thing to encounter that the world has coined this proverb on its attention to business when others were neglectful, "Don't monkey with the buzz saw." That sage bit of advice is most excellent in a saw mill or planing mill or factory of any kind where sawing is done. And in a broader sense it is most excellent in politics, religion, ethics, morals and drink. Had that now "putrid reminiscence" of Kentucky statesmanship, who is sweating blood in Washington the last few weeks, followed that one short adage, a few short years since, he might still be the favored son of a famous family. "Don't monkey with a buzz saw!" but if you do, then first and foremost, back out as gracefully and as promptly as you can. Don't stop to bow, or be gracious, or offer any apologies or explanations for your retreat. Take Lady Macbeth's good advice, "Don't stand on the order of your going, gentlemen, but go!" Retreat at once from the experiment. The soldiers at Balaklava made a mistake, and charged the Russian buzz saw.

"And then they rode back,
All that was left of them,
Left of six hundred."

But when you retreat from a live buzz saw, with its teeth all in order and fresh from the dentist's, be sure and bring away the pieces. They may be very useful. And if a good surgeon hastily called in cannot make good use of them in putting on the much-needed repairs, you still will want them as mementoes, as souvenirs to show your friends. When they see your stumpy legs or arms wrapped up in cotton and great rolls of bandage they will naturally wish to know how much is left of you, and you can point to the basket of remnants and ask them to make their own estimate.

On one occasion in history, after some five or seven small fishes had been dissected, twelve baskets of fragments were taken up and preserved for the inspection of friends. Buzz saws are not mentioned, however, in connection with the incident. A buzz saw being closely akin to the buzzard, it adopts the same habits and picks your bones very closely, but unlike its feathered kinsman, it does not stop when it gets down to bone, it just goes peacefully on, singing a joyful song. It makes no claim to monopoly in the matter of buzzing. It allows the hornet, the bee, the fly and the cicada to buzz as much as pleases them, but it does more execution in a second under favorable circumstances than all the other buzzers combined. There are a great many mangling machines in the world, but this little circular, shining, singing disc of steel with a frilled edge leads them all and seems to set its gleaming teeth into a pine knot or a man's hand with equal delight. The man who wrote the song, "I am saddest when I sing," could not have had reference to the buzz saw.

A man may go up and poke a mule in the ribs and escape. He may examine the teeth of a lion or tiger, and even lay his head tenderly amongst them, and then be thrilled by the plaudits of the arena. But not so in a saw mill. There is something sad and melancholy in the tone of those who applaud the man who tries to tame a buzz saw. And I noticed that the great Hagenbeck did not exhibit one of these jungle-eaters along with his wild beasts at the World's Fair. That veteran lion-tamer frankly admits that he never saw one of them domesticated. Shakespeare admits that "Taming the shrew" is an easier job, though that is a task that baffles most men.

But when this siren of the saw mill once lures you to embrace her, you will be wise if you are well loaded with accident insurance. You will need it. And when you return to your home and your senses, send immediately for the best surgeon procurable. Save all the pieces, even the chips and bark and sawdust. Modern surgery can do wonders. Keep the pieces clean and warm. Follow the directions in a previous chapter on the arrest of hemorrhage and management of shock, and the surgeon, if he is up in his art, will do the rest.

About a year ago, a man came running into my office from a neighboring planing mill, with his left hand in stringlets, thumb and three fingers dangling by shreds of skin, the hand ripped up in three lines to the wrist, with two cross section gashes. The sight was frightful, blood spouting, and fragments red and dangling. Seizing the wrist and making pressure over the two main arteries, I shut off the hemorrhage, and calling assistance I tied the arteries, and then, by a laborious, painstaking piece of patch-work, I brought the fragments into place, closed and stitched them carefully together, dressed the hand

in hot water so arranged that it would drip over the dressing constantly at 100° of temperature, and in a month the man took his whole hand back to the factory with him and now has nearly as good use of it as ever.

Some years ago, a sawed hand was brought to me that did not come out of the conflict so well. The saw had gone "cross lots" through the hand, and the bystanders in the mill, thinking that a piece off is off forever, made no attempt to save the piece of hand that dropped on the heap of sawdust under the saw-table. A messenger was dispatched in haste after the missing member, who soon returned with the cheerful information that, while the men were discussing the accident after the victim had started for my office, a dog had seized the piece of hand and ran off with it, and nobody knew where to find it. So I proceeded to make as handsome and smooth and symmetrical a stump as possible, and the man now has a three-cornered hand with half a thumb and two-thirds of a little finger to hold his fork with while eating pie. Since then he may miss hitting the nail on the head as often as he pleases, yet he never mashes the nail on any thumb or finger on that hand.

Great are the achievements of genius, but greater those of the buzz saw, and,
When you feel a mighty impulse
To go poking round about,
In a factory or saw mill
To clear up some lurking doubt,
Then the buzz saw's
Bound to get you
If you don't
Watch out.

Answers to Correspondents.

(NUMBER 17.)

DR. ROBY:—What can I do to remove a red mark on my baby's upper lip, caused by a scratch from one of its fingers a few days after its birth? It is full of blood, and when pricked quite a quantity of blood comes, but it fills up again. It is now 6 months old. A ten-year-old girl has been ailing for about two months. Does not feel like playing or doing anything, only lying down and doing nothing, not even talking. No appetite and often a feeling of pain a little above and front of hip bone, calling it her side, and complaining of headache. A bad complexion or sickly look. What can I give her? Please tell in KANSAS FARMER.

Virgil, Kas. VIRGIL.
Your baby's lip needs a surgical operation that will remove the red spot and allow the building in of new tissue in place of the present bad spot. Probably it is what is known as nevus, or mother mark. The walls of the contiguous capillary veins in the skin have broken through and allow the blood to collect in quantity in a spot in the skin. This little pool of blood must be destroyed and then new capillary veins will be built in place of the pool.
Give the ten-year-old child China 3x, a dose before each meal and at bed time.

DR. ROBY:—I wrote you some time since in regard to my baby's eye, and received reply in FARMER and followed directions. I used one ounce of the distilled water and tincture of aconite and in a day or two I got another and used it. We thought it some better, but now it is as bad as ever. It matters water and gets very red by spells. Please tell us through the KANSAS FARMER what is the matter with the eye, and can it be cured, and your treatment for it? Otherwise he is a stout, healthy baby.
R. N. HEACOCK.

Harper, Kas.
No wonder it did not get well. The only wonder is you did not destroy the eye, if you actually used in the eye all the wash you say you did. One or two drops of the wash at a time and two to four hours apart, according to severity of inflammation, is abundant, and such a flooding of the eye as you suggest is dangerous. Try the same wash again, and first bathe the eye with very warm, very clean water that has been boiled and then gradually cooled by standing, to the right temperature, and then follow up by dropping into the eye not to exceed two drops of the aconite lotion. The trouble is conjunctivitis, or inflammation of the lining membrane of the lid and globe of the eye.

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If there are cracks in it the oil won't mend them.

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VACUUM OIL CO., Rochester, N. Y.

HENRY W. ROBY, M. D.,
SURGEON.

Office 118 Sixth Ave. West, TOPEKA, KAS.

A CIRCUS

ON THE BILL-BOARDS

and a circus on circus day are two kinds of a thing. The greatest circus is usually on the Bill-boards, and the circus on Circus Day is consequently a disappointment. There is, of course, the occasional exception which proves the rule. McCormick Binders and Mowers are an exception. Their promise on the "Bill-boards" is always fulfilled on "Circus Day." For years the makers of McCormick Grain and Grass Harvesters have been telling the World that they could and would at any time demonstrate the superiority of their machines in the actual competitive field test. The "Bill-boards" of other manufacturers have glaringly proclaimed that their machines are the best. But "Circus Day" came at length. The World's Fair urged all these manufacturers to take their machines into the field that the results might be compared. The McCormick was there; its show went on. It's promises to the World were carried out. But how about the other "great and onlies"? They stayed at home consoling themselves with the reflection that "the people like to be humbugged," and their artists got up new pictures for the "Bill-boards." Before deciding about going into these field trials, the competitors of the McCormick went and examined the crops to be cut, and realizing the severity of the conditions, they said to themselves: "We don't propose to come here and compete with the McCormick;"—"a live coward is better than a dead hero;"—"a sucker is born every minute, and we'll catch some of 'em anyway." That policy may answer for the "Bill-board" sort of circus; it will not do for the McCormick. Promises must not be broken. If McCormick machines are not better than all others, they must not be so advertised. If they are so advertised, every Binder, every Reaper and every Mower must be ready at a moment's notice to go out into the field and show up. That's business. Write to the McCormick Harvesting Machine Co., Chicago;—or, better yet, call at once on your nearest McCormick agent

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The Home Circle.

To Correspondents.

The matter for the HOME CIRCLE is selected Wednesday of the week before the paper is printed.

Our Needs.

We need a bit of wisdom, we need good common sense, we need a little sunshine to make the clouds less dense, we need a kindly neighbor who has a kindly heart...

FLOWERS, SHRUBS AND TREES.

At this season of the year we all are, or ought to be, interested in flowers and plants. The following selections, from many sources, may prove of interest to "Home Circle" readers:

MISSING LINKS.

Japan plants are often identical with the plants of the eastern portion of the United States, and occasionally furnish "missing links." The white-flowered dogwood of our woods, by the second or spring growth of the bud scale develops so as to simulate a large white involucre.

THE MARIGOLD FAMILY.

The calendula is the old and well-known marigold family, but which some persons may not recognize by that name. The name was given because some of the species were supposed to be in flower every month of the calendar.

SEEING PLANTS GROW.

In the laboratory the growth of a plant may be rendered visible by attaching a fine platinum wire to the stem or growing part. The other end of the wire, to which is

fastened a pointed piece of charcoal, pressed gently against a drum. The drum is covered with white paper and kept revolving by clock work.

Of course, if the growth is stationary, a straight line is marked on the paper, but even the slightest increase is shown by the inclined tracing on the paper.

By a simple modification of this arrangement the growth of a plant can be rendered audible. The drum must be covered by narrow strips of platinum foil, say one-eighth of an inch wide, and one-eighth between each strip.

If the strips of platinum be made to complete the circuit of a galvanic battery to which an electric bell is coupled up, then the bell will continue ringing while the plant grows an eighth of an inch, followed by silence (while the pointer is passing over the space between two strips) for the next growth of an eighth of an inch, and so on.

The growth of some very rapidly-growing plants, and the opening of some flowers, such as the compass plant, can be heard direct by means of the microphone. By the above means it has been proved that plants grow most rapidly between 4 and 6 a. m.—New York Journal.

HEALTH-GIVING PERFUMES.

The art of perfuming in all its refinement came to us from the Italians, and it has remained for an Italian to discover also that perfumes are actually healthy. It is a very odd theory, but there is no reason in the world to doubt the correctness of the theorist's conclusions. He confines his theorizing largely to the domain of the vegetable kingdom, including the old-fashioned sweet-smelling herbs that the grandmothers loved to have about them.

LILIES IN PALESTINE.

Because the Holy Land is so overgrown with beautiful lilies, it is sometimes impossible to tell what particular species is referred to. The "lily of the valley," for instance, can not be identified. It is certainly not the fragrant chime of bells which we know by that name, for our "lily of the valley" does not grow in Palestine. In old heralds it is called "lily convally," lily of the combs or hollows, and it is a native of southern Europe.

The Benedictine and Cistercian monks had a tradition that the lily of the valley was the true "lily of the field." Hence it was cultivated with peculiar care wherever there was a cloister of either of these orders. In many parts of England lilies of the valley grow wild, and it is thought that their ancestors were transplants from some sweet and tranquil monastery garden.

In that delightful collection of flower myths, "The Folk Lore of Plants," we read that "in Devonshire there is a curious belief that it is highly unlucky to plant a bed of lilies of the valley, as the person doing so will die in the course of the next twelve months." This superstition seems to be related to the German folk-saying that a lily or a rose appears in the chairs of those about to die.—New York Evening Post.

THE NEW FRENCH CANNAS.

I do not know of any class of plants that have attracted so much attention or been so much admired during the past season as the new large flowering French cannas. And for effectiveness on lawns in large beds or masses, or as single specimens in the mixed



DON'T ACCEPT IMITATIONS.

THE PROCTER & GAMBLE CO. CINTI.

border, nothing can be more tropical and impressive. They are really plants for everybody, as they are entirely free from insect pests, and require but little care and attention to grow them to perfection.

To grow these cannas to perfection, as well as to enable them to properly develop themselves, they should be given a very deep, heavily-enriched soil, and as soon as hot, dry weather sets in mulched to the depth of at least two inches with good stable manure, and if the opportunity offers, water copiously during seasons of drought.

The plants should not be planted outside until the weather becomes warm and settled, which, in this vicinity, (Rochester, N. Y.) is about the 10th of May, and as soon as the foliage has been destroyed by the frost it should be cut off, and the tubers dug and stored underneath the greenhouse stage, or in some other situation, where a temperature of 55° is maintained, until the time arrives for planting them outside again.—Vick's Magazine.

THE EARLIEST FLOWERING SHRUBS.

The peculiar prevailing colors of the flowers of the earliest blooming shrubby plants must be remarked by every one. Yellow seems the predominant hue, but we have some species in which some form of red is characteristic, and a few in which the blossoms are white.

Most of these precocious kinds are very simply adapted for cross-fertilization. Among the hardy, every early, yellow flowering shrubs there are none of such horticultural value as the Cornelian cherry, Cornus mas, not infrequently to be found under the name of Cornus mascula.

The Japanese witch-hazel, Hamamelis Japonica, when first introduced into the Arboretum, gave promise of surpassing all other shrubs in the earliness of its bloom, the buds opening in mild days in midwinter.

Among the earliest flowering shrubs having red flowers, the European Daphne Mezereum is probably the best known and most valued for the garden. So precocious are its peculiar rose-colored blossoms that some of them may occasionally open in the autumn, some may open during mild periods in midwinter, and the plant may be found showy with bloom before any of the buds of Cornus mas have opened.

Of the early white-flowering shrubs, Andromeda Japonica is probably the first to open any of its pretty urn-shaped blossoms, which are borne in large compound pendulous racemes. If exposed to the sun in winter the buds are liable to great injury, so that the plants do best in partial shade, and they should be protected by leaves and evergreen boughs in winter, as they cannot

be counted satisfactorily hardy in this climate.

A honeysuckle, Lonicera Standishii, bears a few very early small white flowers, which, although not showy, are interesting for the sweet fragrance which they exhale.

Perhaps the Forsythias should be mentioned among the earliest flowering shrubs, because the flowers open on the stems which trail on the ground where the buds first feel the effect of the warm sunshine almost as early as those of Lonicera Standishii.—Garden and Forest.

Naturally fair complexions would be the rule rather than the exception, as unfortunately it is at present, if the ladies would wholly abandon cosmetics, and more generally keep the blood pure and vigorous by the use of Ayer's Sarsaparilla, the only reliable purifier.

NATIONAL DAIRYMAN.

Being replete with expert information upon all questions relating to the Dairy; Butter and Cheesemaking, under department heads, attractively arranged and beautifully printed on the finest plated paper, with elegant illustrations and timely comments, is easily the best Dairy paper published West of the Mississippi, and is the LEADER OF ADVANCED THOUGHT on all subjects of material interest to the Farming, Dairying, Breeding, Fruit-growing, and allied interests in the West. You cannot afford to be without it.

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All advertising intended for the current week should reach this office not later than Monday.
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KANSAS FARMER CO., Topeka, Kas.

W. W., of Solomon City, asks for a process, cheap and easily applied, to make shingles sawed out of native timber durable and lay smooth; about how long can cottonwood shingles be made to last, also red elm?

Smith's Fruit Farmer for April is a great improvement over its predecessors in every respect except the printing, which defect the publishers promise to speedily remedy. Everybody ought to have the *Fruit Farmer* for the valuable contributions and timely editorials it contains.

Bulletin No. 43 of Kansas Experiment Station, relating to experiments with sorghum and sugar beets, displays another example of the careful and efficient experimental work of the chemical department of our Agricultural college. It is received too late for the deserved review this week.

The instruction and refinement to be derived from high art pictures makes especially attractive the offer of the KANSAS FARMER Co. to send free one number of "World's Fair Views" or of "Holy Land Photographed" to any person who sends \$1 to this office for one year's subscription to the KANSAS FARMER.

The KANSAS FARMER Co. has on hand a limited supply of the elegant illustrated book, "The World's Gems." These were bought from the publishers at a great reduction, and will be disposed of at like reduction to subscribers as follows: "Album of World's Gems," postage prepaid, \$1.25. One subscription and "World's Gems," \$2.00. Send early and secure this work of art.

It has recently been announced from Wall street that a plan is now ready for introduction in the House authorizing issues of bank currency capable of expansion according to the requirements of business and available to the State banks on the same terms as the national. This plan is reputed to be "favored both by party leaders and by the administration." It is confessedly put forward at this time as a means of counteracting the silver sentiment which Wall street notes is increasing at the West and South.

Every farmer raises or desires to raise more or less fruit. Success in this is largely dependent upon the skill with which he combats insect and fungous pests. The KANSAS FARMER presents on page 10 of this number a complete calendar for spraying, together with directions for preparing the essential sprays. The need for such compact table for ready reference has been long felt by every practical horticulturist, and especially by the farmer who devotes only a portion of his attention to fruit-raising as a "side line." Save this number of KANSAS FARMER and call your neighbors' attention to this calendar.

MARCH REPORT OF KANSAS SECRETARY OF AGRICULTURE.

The report of the Kansas Board of Agriculture for the quarter just ended is completed and in the hands of the printer. It contains the interesting addresses delivered at the board's annual meeting in January and the valuable discussions they elicited, along with numerous instructive articles pertaining to Kansas and its conditions, which are likely to be of decided encouragement, not only to residents within the State, but to all people outside who either directly or indirectly have interest in its welfare and advancement. Besides the foregoing it contains a painstaking digest of detailed replies to carefully prepared lists of questions sent to about 600 reputable, experienced correspondents, chiefly farmers, who were instructed to make none but "careful, unbiased answers" upon crop, fruit, live stock and soil conditions as they were March 31.

The topic foremost in public interest now is the condition of winter wheat. In dealing with this the Secretary says three general circumstances which have been largely influential throughout the State should be noted at the outset: First, that over a wide area, particularly in the west and southwest, insufficient rainfall at and after seeding either prevented germination of much of the seed sown or so delayed it that the plants springing up later failed to develop sufficient root-hold in the soil to sustain them; while in a number of these counties considerable of the seed, because of dry weather since sowing, or an impervious crust formed on the ground's surface during winter by action of the elements, is not yet up. Second, much phenomenally spring-like weather in February and three successive weeks of abnormal warmth in March caused an unusual growth of all wheat that was up, and upon this tender growth icy air from terrific winter storms that raged to the north and west of, but not in, Kansas for several days beginning March 31, came with withering but not necessarily fatal effect. Third, the entire State is just now in need of protracted soaking rains—such as it expects and is accustomed to receive in the early days of April. The acreage sown to wheat in the fall of 1893 is reported as about 95 per cent. of that seeded the previous year, and present indications are that of this aggregate about 14 per cent. will be plowed up for other crops—slightly less, however, with general rains, and much more if the rains are tardy or scant. It is notable that a large number of counties reporting highly favorable conditions are with few exceptions among those having the principal wheat acreage; in other words, they are the counties that usually furnish a large share of the tremendous output of wheat for which Kansas is noted, while the less encouraging reports are in many instances from counties with but comparatively limited wheat acreage, and the surplus product of which really represents only a minor proportion of the grand total.

The reports of correspondents having been made immediately following the sudden, unexpected freeze, when well nigh all the brilliant verdure of their fields had been blasted and blackened, were, perhaps, Secretary Coburn suggests, more deeply shaded than close analysis of the facts might justify, for cutting down of the green growth does not necessarily signify destruction or irreparable injury to a well-rooted wheat plant in which jointing has not begun; on the other hand, it is not an impossibility that in numerous instances and under favoring circumstances an increased stooling or stalk-making may result. Their solicitude has possibly been based more on presumption than demonstrated permanent injury, and the believed adverse conditions caused by freezing may not imply any important curtailment of the season's production.

Of the 105 counties ninety-three report the present as above 50 per cent. of an average good condition; eighty-six counties 60 per cent. or above; fifty-nine counties 80 per cent. or above; thirty-eight counties 90 per cent. or

above, and in sixteen counties it is given as 100 to 110 per cent.

Deducting the area which correspondents now estimate will be plowed up there is left full 4,000,000 acres of wheat, and its condition is 75.5 per cent. of a good average; in 1892, when Kansas produced its great wheat crop of more than 70,000,000 bushels, the acreage was 3,820,000, and condition March 31 was, as compared with a "normal or full average," set down at 85 per cent. In no instance does a correspondent allude to the presence of Hessian fly, chinch bug or other insect pest. Having a soil and climate which with the showers and sunshine of spring impart to belated or debilitated plant-growth such revivifying and transforming effects as they do in Kansas, there is broad foundation for hopefulness of a most generous wheat crop from such a beginning as is now in sight. In presenting this hopeful view it is, however, but proper to say with reference to the wheat situation that it is in very many counties, comprised in the western three-fifths of the State, one of grave peril from which early and copious rains can give relief, and this at best can be but partial.

RYE.

The reports on rye indicate an acreage of 75 per cent. as compared with one year ago, and its condition is 82.5 per cent. of a good average.

WHEAT AND CORN ON HAND.

The quantity of wheat in the farmers' hands, as estimated by themselves, is about 5,827,000 bushels, or 51.5 per cent. of the quantity reported by assessors one year before, and of corn 19,465,000 bushels, or about 52 per cent. of the stock in hand a year ago. The quantities of each in the different counties vary widely, some possessing none to spare or scarcely sufficient for seed or current needs and others having an abundance and much to spare.

LIVE STOCK.

Live stock is reported uniformly healthy and there is an utter absence of any disease prevailing, although many counties report their animals thin in flesh. Horses have increased somewhat—from 1 to 3 per cent.; milch cows and other cattle are less by 9 and 12 per cent., respectively, swine by 7 per cent. and sheep 20 per cent.

CORN TO BE PLANTED.

An aggregate of the estimates given in response to the question, "How will the acreage of corn to be planted this year compare with that of 1893?" indicates that it will be 13 to 15 per cent. greater than that given by assessors in March of that year, and from 2 to 5 per cent. greater than the increased acreage later (amounting to about 11 per cent. additional) planted in ground upon which wheat had failed to make a stand. This year's acreage, too, will be increased in proportion wherever it may be found later that wheat and oats are not sufficiently promising to justify their occupying the land where sown.

TAME GRASSES.

Most of the reports in reference to the season's prospects as to tame grasses are encouraging, and many from the counties where they are most largely grown say "in fine condition." In some localities the more forward clover and alfalfa were injured by the freezing weather in the last ten days of March. The alfalfa, both as to condition and value, is very highly spoken of and steadily increasing in popularity, as is evidenced by the acreage of 1891 being increased upwards of 116 per cent. in 1893.

FRUIT.

While there is a feeling of much uncertainty as to what ultimate effect the sudden cold of March will have on the fruit, and some correspondents insist that there is little hope for any varieties, a majority regard enough of the apple buds (except of early varieties) unharmed to make a fair to good crop not improbable; this especially in twenty northeastern counties near to or north of the Marais des Cygnes and east of the Blue rivers, a section in which development was not so far advanced and therefore the liability to injury not so great as in counties further south. Somewhat of the same applies to cherries, except that they have undoubtedly suffered worse than

the apples, while peaches other than in exceptional instances and in particularly favored spots are regarded as well nigh destroyed.

THE SEASON AND CONDITION OF SOIL.

The season is undoubtedly from ten to twenty days more advanced than usual, yet vegetation is not forward in the same ratio, owing to their having been much less than the normal moisture during March. For this latter reason, too, the oats sown are not in good condition, and it is altogether probable many oat fields may yet be planted with corn. As respects mellowness, and considering the dryness, the soil is reported in a most satisfactory condition, and the acreage made ready by fall and winter plowing is the greatest in the history of the State. The acreage of new sod to be broken is, however, not reported large.

LATER.—Since the foregoing statement was prepared, heavy rains have fallen, sufficient to thoroughly saturate the soil, in most counties east of the 97th meridian and north of parallel 38, and to a less yet somewhat helpful degree in the near counties west and south.

TUBERCULOSIS.

No more startlingly interesting bulletin has been issued by any of the experiment stations than that just published by the veterinary division of the Cornell, New York, University Agricultural Experiment Station on tuberculosis. The fact that about fourteen of every hundred deaths in the human family occur from this cause the world over, while in some places no less than one death in every two is from this insidious disease, makes its study and possible prevention a matter of first importance.

Dr. James Law, professor of veterinary science at Cornell and author of the bulletin, is one of the first authorities on this disease, so that it is with the greater confidence that we refer to his statements. It is comforting to have the assurance of such an authority that tuberculosis is "absolutely preventable." But before mankind will bestir themselves to prevent this or any other malady it is necessary that information of its destructiveness be disseminated. To induce action in this case is the more difficult from the fact that people have been so long accustomed to the quiet taking off and the oft-repeated procession to the grave yard on account of the disease, consumption, which has been believed to be not only incurable but unavoidable.

It is now well established that tuberculosis is a germ disease, in this respect resembling smallpox, yellow fever and many other maladies. This germ lives in great numbers in animal bodies and is prevalent in a greater number of animals than any other disease. Cattle are especially susceptible, but many domestic and other animals are subject to it and may be the means of conveying it to the human subject. Even rats and mice have tuberculosis. This germ manifests no power of voluntary motion and would therefore be classed as vegetable rather than animal. Its vitality is one of its strong characteristics, and it doubtless lives even after the substance in which it has grown has been dried to dust. Freezing cold does not kill it and it requires a temperature of about 158° to destroy it.

The fact that it is liable to occur in every-day food products, as meat and milk, yet is so minute as to escape ordinary means of detection, accounts in large measure for the wide distribution in the human family.

But modern science has furnished the means of detecting the presence of these germs of consumption with such certainty that it now becomes the duty of the State to protect people against the liability to purchase and use the products of animals affected with this disease, and more, to take a similar course to that pursued in the recent stamping out of the dread cattle plague and rid the country of all tuberculous animals.

In the March number of *The Annals of the American Academy*, Philadelphia, C. S. Walker takes a serious view of events of the recent past, the present and those prospective in the near fu-

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In the Dairy.

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

HOME CHEESE FOR HOME FOLKS.

In response to an inquiry regarding some points about cheese-making, we present this week two articles, giving full directions to beginners, and also of interest to those further advanced in the art. The first is from the pen of Mr. John Bull, of Cimarron, who is well known among dairymen throughout the State, and if all his cheeses are like the one we had the pleasure of sampling at the State dairy meeting two years ago, and there were more cheese-makers of his stamp, our State could save thousands of dollars annually that are now sent to New York alone. The other production is furnished by Mrs. Nellie S. Kedzie, Professor of Household Economy and Hygiene, at the Agricultural college. For farmers wishing to make cheese at home, her instructions will be found worthy of study. Mrs. Kedzie is too well known in her sphere of work to need any special mention at this time.—EDITOR.

Aerate the night's milk and let it stand in a clean vessel in pure air until morning. When you bring in the morning's milk, put a strainer (cloth) over the vat in which you are to make your curd. Strain the night's milk first through, cream and all, then strain the morning's milk in. This will fully mix the cream through the milk. Warm the whole to 86° F., being careful not to scorch it onto the vessel in which you warm it, as the least scorch will taint the cheese. To twelve gallons of milk add one and one-half drachms of cheese color, stirring so as to mix it evenly in the milk; then add one-half ounce of rennet extract in a half pint of water, stir it in thoroughly for three minutes then let it stand until it is coagulated like soft clabbered milk, which should take about thirty to forty-five minutes if the milk was in proper condition, then cut in slices about one-half an inch thick by passing a knife through it; let it stand a few minutes, until some whey begins to rise over the top of it, then cut the other way, leaving it in cubes standing on end, about one-half inch square. Let it stand about ten minutes and then, placing the knife diagonally, cut across the cubes so it will nearly leave the curd in diamonds. Then carefully pass the hand around and under the curd, parting it off the vat and stirring the whole mass or turning it over. Warm it up, stirring carefully and often, so that the curd may not pack together again and so as to keep the heat evenly through the whole curd until it shows about 100° F., which should take about forty-five minutes from first stirring. Hold the heat at about 100° F., not allowing it to fall below 95°, until the curd hardens so that when gathered up in the double hands and squeezed quite closely the cubes will not burst, but upon opening the hands the cubes will readily drop apart almost like corn, then drain off the whey. When well drained salt, using four ounces of salt to twelve gallons of milk, and put to press. Press gently at first, then harder, so as to have it ready to dress in about two hours after going to press. Press firmly for about twenty-four hours. Grease all parts not covered by bandage or dressing, and put on shelves to cure. Turn and rub it over every day, and in from three to four weeks you will find it a very toothsome food if the work has been well done and made from milk that would make a pound of butter to three gallons of milk. Do not attempt to make it of all morning's milk nor of old sour milk. But evening's milk and morning's, if properly cared for, should be ripened about suitably in summer by 9 or 10 o'clock a. m. In winter it may be kept several days and all made up at once with good success.

Theory never makes perfect at cheese-making—practice is needed. But it seems to me that any novice, by being careful to follow these directions might make a more acceptable article

than one-half that is generally purchased.

The warmer the curing room, the sooner they will be ripened fit for the table. Such cheese would be too soft for long keeping and should be used up in six weeks.

Now, if you wish to make something to captivate your friends, add sweet cream enough taken from other milk, so that there would be about one pound of butter to two gallons of milk, and use about double the amount of rennet extract. Proceed with other operations a little more slowly, handling the curd very carefully, so as not to beat it up and waste it, and when the curd is salted (use about one-half ounce more salt) ready for the press, take clean sage leaves and rub fine and mix enough through the curd to just give it a slight taste of sage, and you will have something fit for an epicure.

N. B.—Get Hansen's rennet extract and color. I have had some other rennet extracts that were worse than worthless.

The amount of cheese which any farmer would be likely to make is small, so it would not pay to buy expensive machinery or appliances. A thermometer is necessary, and for the amount of milk usually found a new tin wash boiler will do in which to make the curd. If two milkings are put into one cheese, a boiler for night's milk and one for the morning's milk will suffice.

The milk should be mixed in the morning and slowly raised to 80° F., the rennet and the coloring must be added, well stirred in and the curd allowed to form, which it should do in about forty minutes.

The coloring may be used or not, as one chooses. It may be bought at the drug store, and while it improves the color of the cheese, it is harmless. All factory cheese as we see it is colored. The rennet may be of two kinds. The old way was to use the salted rennet and soak it in water. A better way, when one makes a small quantity of cheese or makes cheese irregularly, is to buy the rennet tablets made by Chr. Hansen. Full directions for using them are found with each package.

When the curd is firm it must be cut into small cubes with a long-bladed knife and allowed to stand about an hour. It is then gently heated to a temperature between 96° and 100° F., never higher, and allowed to hold this temperature about ten or fifteen minutes. The old rule for heating was to let the curd heat for one and a half hours and to hold this temperature until a bit of the curd, when chewed, "squeaked in the teeth."

The whey is now drawn off and the curd hung in a cloth to drain. It is minced fine, salted with from two to two and a half pounds salt to each hundred pounds of curd—the proportion for small cheeses being exactly the same. It may be pressed twenty-four hours, and the hoop, with its "follower," must be strong, while the press may be any home-made press which will bring the desired weight on the cheese.

When pressed the cheese may be taken out of the cloth in which it was put into the hoop and be bandaged neatly with cheese-cloth. It should stand in a room never higher in temperature than 70°, and should be turned every day until it is cured. Many cheese-makers like to grease the outside of the cheese with a little fresh butter every time it is turned. It must be kept away from the flies, and it should cure in from ten days to a month.

Some of the merchants in Topeka have come to the conclusion that all butter is not good butter, and consequently have decided to fix the price in proportion to the value of the goods offered. This is a move in the right direction, as formerly a person bringing in a lot of the rankest butter to be found, would receive as much as the one with a first-class article, when in fact one was not worth more than half as much as the other.

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The Poultry Yard.

Selecting Good Layers.

EDITOR KANSAS FARMER:—Of the pure-bred varieties, the best layers are to be found among the class of fowls that come to us from the region of the Mediterranean sea. The Leghorns from Italy, the White-faced Black Spanish and the Black Minorcas from Spain, originally. Of the above, the Black Spanish are the oldest and formerly the best known and most extensively bred in the country. Later came the Leghorns, of which there are four distinct varieties, the Brown, the White, the Black and the Dominique Leghorns, to which we might add the Blue Andalusian, which is a typical Leghorn in shape and style. The Black Minorcas are of comparatively late introduction, and, unlike the Leghorn, they came to us from England, instead of their native country. It is said that they were introduced into the lower part of England, down about Devonshire and Cornwall, in the copper mining region, several hundred years ago by Spanish sailors, and that they have bred in that part ever since. The Black Minorcas have made but little impress, however, on the common poultry of this country up to the present time. With the Spanish, the white-faced variety, and the Leghorns, particularly the brown variety, it is quite different; particularly in the South, where half-breeds and cross-breeds showing a good degree of Spanish and Leghorn blood are quite plentiful.

Now, the most distinctive features of these two breeds in their purity is their large combs and white ear lobes, or deaf ears, both of which are indicative of good layers, especially the large comb, and, in selecting common fowls for layers, low, stubby combs, red ear lobes and feathered shanks should be avoided. Such features indicate Asiatic blood, which means few eggs and broodiness. Those that have smooth shanks—yellow shanks preferred—large combs and a tendency to white ear lobes, should be chosen. They have Leghorn or Spanish blood to a considerable degree, and possess at the same time that valuable characteristic of the Mediterranean fowl—prolific laying qualities. There is one other pointer in selecting a good layer, that we might name, which indicates Hamburg blood, and that is the rose comb. The Hamburgs are fine layers, and they were formerly known as the "Dutch every day layers." They all have rose combs, and they have made considerable impress on the barn yard poultry. They also have white ear lobes. Hence in looking for good lay-

ers in the common flock it is safe to select the rose-comb hen with a tendency to white ear lobes. Edgerton, Kas. X. Y. SMITH,

To Test an Incubator.

There are so many conditions to be considered in hatching chickens that it is not an easy matter to judge the merits of an incubator by the way it is built or by the results of a single trial. It is only by continual use and by making a careful estimate of the actual



results, that the value of an incubator can be accurately gauged. One of the best records for hatching is that made by the Peerless incubator, manufactured by H. M. Sheer & Bro., Quincy, Ill. The Peerless claims the record for hatching 169 chicks from 169 fertile eggs and making an average of 80 per cent. in general use. This incubator is built upon entirely new and improved lines, filled with the best appliances, and is represented as absolutely self-regulating. The manufacturers back up their claims for it with an iron-clad guarantee and offer to refund the money if it does not move exactly as represented. All who are interested in poultry-raising will do well to send to Sheer & Bro. for their interesting catalogue.

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The Veterinarian.

We cordially invite our readers to consult us whenever they desire any information in regard to sick or lame animals, and thus assist us in making this department one of the interesting features of the KANSAS FARMER.

PIN WORMS.—Will you give me a prescription for pin worms? Solomon Rapids, Kas. D. B. S.

Answer.—Give, morning and night, a powder composed of sulphate of iron, 1 drachm; powdered licorice root, 1 drachm; powdered gentian root, 1 drachm; mix. Every other day inject into the rectum 1 ounce of turpentine and 3 ounces of raw linseed oil, mixed.

OPHTHALMIA.—I have a mare that is going blind in her left eye. The lower part of the eye is getting white and she keeps it shut most of the time. Louisville, Kas. G. C. R.

Answer.—Bathe the eye twice a day with very warm water, and each time, after wiping dry, apply a little of the following: Sulphate of zinc and nitrate of potash, of each, 40 grains; water, 1 pint. Apply it freely all around and over the eye, allowing it to go in the eye also.

Horse Markets Reviewed.

KANSAS CITY.

W. S. Tough & Son, managers of the Kansas City stock yards horse and mule department, report the market as being a duplicate of last week. There was quite a run of buyers from all sections of the country, and a good, liberal supply of all kinds of horses.

The outlook for next week is very flattering and advise shippers to send in as many of their good quality roadsters and actors as possible during the present month.

Kansas City Stock Markets.

Our correspondent at Kansas City writes under date April 5: "Our receipts this week 26,000 cattle, 64,700 hogs, 17,000 sheep, against 24,000 cattle, 51,700 hogs and 10,700 sheep the previous week; and 24,000 cattle, 39,200 hogs and 12,300 sheep same week a year ago."

What You Don't Know About California is told in a beautifully illustrated and entertaining book entitled "To California and Back."

The San Francisco Midwinter Exposition will attract tourists to the Pacific coast this winter. Write to above address for pamphlet describing World's Fair, Jr.

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MARKET REPORTS.

LIVE STOCK MARKETS.

Kansas City.

CATTLE—Receipts, 1,300 cattle; 137 calves. It is with much satisfaction that a marked upward turn in the market is noted. Top price for dressed beef steers \$4.05, against \$3.75 one week ago.

CHICAGO. April 9, 1894. CATTLE—Receipts, 18,000. Market active and higher. Beef steers, \$2.80@4.85; sto kers and feeders, \$2.35@3.40; bulls, \$1.65@3.25; cows, \$1.50@3.25.

GRAIN AND PRODUCE MARKETS. Kansas City. April 9, 1894. In store: Wheat, 435,250 bushels; corn, 68,154 bushels; oats, 18,167 bushels, and rye, 6,877 bushels.

WHEAT—Receipts for forty-eight hours, 89,000 bushels; last year, 5,400 bushels. A firmer and fairly active market was had. The cold weather and promise of frost offset the bearish influence of Saturday night's and Sunday's rain and made holders firm in their views and caused buyers to bid up strong for everything.

WHEAT—Cash—No. 2 red, 62 1/2c; No. 3 red, 54 1/2@58c; No. 2 hard, 57 1/4c; No. 3 hard, 55 1/2@58c. CORN—Cash—No. 2, 38c; No. 3, 37 1/2c; No. 2 white, 38c; No. 3 white, 37 1/2c.

EGGS—Firm and in fair demand. Fresh, 8c. POULTRY—Receipts very light, but the competition among buyers slow. Hens and springs not very active, but sales do not drag.

COMMISSION WOOL. Consignments from Wool Producers and Shippers. Solicited. Liberal Advances made when desired. Silberman Bros. Established 1866. 212-214 Michigan St., Chicago, Illinois.

Northern, fair, 60c; Idaho, 65@70c; native, choice, 55@60c; native, good, 50@55c; native, common, 40c. POTATOES, sweet, \$1. STRAWBERRIES—The receipts are confined to Texas stock and not many on sale, the full receipts hardly reaching fifty crates.

CHICAGO. April 9, 1894. The following table shows the range of prices for active "futures" in the Chicago speculative market for the speculative grades of the commodities.

Table with columns: High est., Low est., Closed Apr. 3, Closed Apr. 9. Rows include WHEAT, CORN, OATS, PORK, LARD, S. RIBS.

ST. LOUIS. April 9, 1894. WHEAT—Receipts, 15,000 bushels; shipments, 10,000 bushels. The market dropped a full cent at the start on rains in the wheat belt, picked up 1/2c on buying, neverously lost 1/2c, recovered again and closed 1/2c under Saturday's.

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This farm must be sold, and some one will get a great bargain. It has been held at \$5,000, but a large discount will be made for all cash. Look this up before it is too late. This is clear. I might arrange to take another clear farm for first payment and take mortgage back for the balance, with privilege of releasing lots when sold. Write just what you can do and what you would like to do in your first letter and save time.

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If you are thinking of buying a farm don't fail to write for my catalogue. I have improved farms with about half now in growing wheat in Rooks county, Kansas, the best grain and stock country to be found anywhere. Am selling very low. If you want one don't lose any time in selecting it, as they will go fast at \$5 to \$10 an acre. I sell some for only one-tenth down and a tenth yearly, but prefer a larger payment down. I give long time and easy terms. Write just what you want and how much you can pay down, in your first letter, so as to save time. The whole country has been thoroughly soaked with moisture and a big crop is assured. There never was a better time. Don't pay rent any longer but own your own farm. Send for Catalogue.

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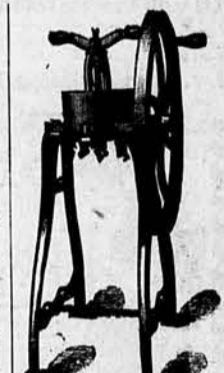


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