

Celery Leaf Blights

From the Farmers' Review:—Leaf blight and leaf spot of celery, which generally come in close succession or together, are unquestionably the most serious diseases that the celery-grower has to fight. The blight generally comes early in the season, appears first upon the lower leaves, and produces irregular brownish patches, with an ashy bloom on the surface of the dead parts of the leaves. The spot which comes later produces similar effects, but in an equally advanced stage the diseased parts of the leaf bear minute black dots which contain the seed bodies of the disease. In both diseases the leaves turn yellow, and, particularly the spot, will continue to spread after the plants have been banked up or stored.

Recent experiments in a large commercial plantation in the East go to show that it is the field Bordeaux mixture is ineffectual; that potassium sulphide, owing to its extreme solubility, is in wet seasons not wholly reliable, though in normal years it will hold the diseases in check; and that the most effective fungicide for these affections is sulphur, which may be cheaply and easily applied, and sticks to the last year I harrowed corn that was more than a foot high, but it was listed corn. A lever harrow is a good implement, but to do good work the teeth must be nearly straight, that is in plowed ground; it is different in stalks. Another reason why the slanting teeth don't suit me is that the tracks of the horses are hardly covered up, and that looks ugly.

leaves very tenaciously. How sulphur would act in storage houses was not determined, it being thought best to market the celery at once and thus avoid all risk.

But these and other experiments indicate that the prime cause of the trouble may not be the diseases, but weakness of the plants due to various causes. Principal among these is the practice of level culture. The old trench method more nearly approaches the natural habits of the plant, and is less fruitful of disease. In the new culture the plants "are made to toe the mark like other vegetables," and it is worthy of note that these diseases have become important only since the advent of this cheaper, easier and in many ways better method of cultivation.

Celery—a surface feeder in cool, wet or moist soils—demands protection of its roots. But when grown by the level method the roots are greatly exposed to the changes of temperature in the surface soil. This has been further proved by mulching plants grown by the level-culture method. It has been found that mulches of lawn clippings, marsh hay, coarse litter and even the spore-bearing leaves of diseased plants, in every case prevented or checked the disease. It will therefore be well for the celery-grower, who cannot be blamed for not caring to return to the laborious trench method, to consider well the advantages of mulching to prevent these diseases and to regard sulphur and potassium sulphide in the light of remedies to be relied upon only when, through contingency, disease may appear in the mulched plantation.

M. G. KAINS.

Notes on Packing Dairy Butter.

An article going the rounds of the press and credited simply to "exchange" gives some good advice on packing dairy butter. We make the following extracts:

A very good packer for putting the butter in small packages can be made by taking a common wooden potato masher, sandpapering until it is smooth, scalding and cooling. For the tubs one needs a packer, such as those used by creamery butter makers. Before putting butter in crocks, be sure that they have been thoroughly scalded and cooled. Never use crocks which have held anything but good, pure sweet butter; as lard, yeast, pickles, or in fact, almost anything will affect the glazing of the jar enough to taint the finest of butter, if it is left in a jar any length of time. In packing, only put in small quantities at a time, and press down firmly, so there will be no pools of brine; continue in this manner until the butter is rounded over the top of the jar. Even the top by taking the ends of a piece of twine (which has been wet) in both hands, holding it close against top of jar. With a sawing motion draw across, then holding jar slanting over bowl or churn, carefully lifting the upper edge of butter from jar with ladle, the air will get under the layer, which will drop off, leaving an even surface, which looks much nicer than when smoothed off with a ladle, which is apt to give a salty appearance.

Place on the top a circle or cap of butter cloth. (These circles may be procured of any dealer in dairy supplies for a few cents per thousand in sizes to fit any package.) On top of cloth put an even layer of nice, clean butter salt, over which sprinkle a little water, and you will have an air-tight crust. Cover this with fresh clean manila paper; fasten on by passing twine below rim of jar two or three times and tying with single bow knot. Trim paper evenly from one-half to three-fourths of an inch below twine, and you will have a package which will find ready sale.

Remember, it is the outside of the package which the consumer sees first. I never realized until a short time ago how many good butter makers there were who were careless in this one respect. Perhaps by mentioning one or two cases, the reader will not think that I am a crack on this subject, or, as I have been told, that there was

too much red tape about my butter making. While in a grocery store not long ago, an old gentleman came in with fifteen pounds of very nice butter in prints, wrapped in hand towels. The dealer offered him two and one-half cents per pound less than they were giving for butter in crocks. The old gentleman was quite indignant, but was told that they had no place where they could keep print butter free from taint. After the old gentleman went out, being a little curious over the butter, I watched to see what was done with it. The dealer took it from the towel, placed it on a platter, covered it with clean, fresh-looking paper, called an errand boy, and sent it to a hotel near by, remarking to me at the time that Mrs. So and So had left an order for good butter, and was willing to pay a little extra. I knew that he had refused to pay within 2 1/2 cents as much as crock butter was bringing, only a few minutes before. As it takes so little for an excuse to drop on the price, it stands in hand not to leave any show for the excuse. Never use any cloth about butter, which has the suspicious look of coming from some worn-out garment.

How to Raise Cow Peas.

From Farmers' Review:—As I have recently received quite a number of inquiries about raising cow peas, and the crop in general, and as the crop "cow peas" does not seem to be very extensively understood, I write the following article:

First, the reasons why cow peas should be sown in to enrich the ground for any crop you wish to put on the ground the following year.

Second, the cow peas make good feed; any animal enjoys them and thrives much better during winter than if fed on hay and corn alone. They are far superior to corn fodder or clover. For sowing cow peas, prepare your ground as you would for corn; sow any time from May 15 to June 10 or 12, according to the season; do not sow in ground which is wet and seepy—that is, if you are sowing for hay; if for fertilizer, sow where and when you want to.

Sow with a wheat drill, stopping up every other hole in the drill box. All wheat drills will not sow cow peas; some crack the peas too much. For sowing with a corn drill, straddle the rows, straddling the first row twice, and so on. Cow peas can also be broadcasted and harrowed in. From three pecks to one bushel is the right amount to sow. Cut with a mower and rake with a hay rake, sulky or sliding dump-over rake. If you cut for hay, cut when you see here and there a few pods drying; the vine will yet be green and sappy. If you cut for seed, cut when pods are dry, but in all cases before frost, and in all cases let peas and vines dry well before putting in stacks, sheds, or barns. When cutting, cut the stubble as long as you can. This adds to the fertilizer for the crop following. Top the stacks with hay to turn the rain.

Cow peas are just the crop to sow on your worn-out land; try it and be convinced. There are quite a number of varieties, but of them all the "Black pea," sometimes called "the poor man's pea," is without doubt the best all-around cow pea in existence. It is exactly all right. H. F. Harrison, Clay County, Illinois.

Some Good Recipes.

Jennie Anderson's Cookies.—Butter, two-thirds cup; sugar, one cup; buttermilk, one-half cup; soda, one teaspoon; one teaspoon grated nutmeg. Roll thin, sprinkle with sugar and bake quickly—one egg.

Molasses Cookies.—Eggs, two; sugar, one cup; vinegar, two tablespoons; molasses, one cup; ginger, one teaspoon, ditto soda. Mix quite stiff; roll thin; bake quickly.

Receipt for a Farmer's Fruit Cake.—Chop fine half a pint of dried apples; cover with half a pint of cold water and let them soak over night. The next morning add a cupful of golden syrup; simmer gently for one hour. Stand aside to cool. Beat half a cupful of butter to a cream; add one cupful of granulated sugar. Dissolve a teaspoonful of soda in two tablespoonfuls of water and add it to half a cupful of buttermilk or sour milk; add this to the batter; add two teaspoonfuls of cinnamon, half a teaspoonful of cloves and one egg well beaten. Sift two cupfuls of flour; add a little flour, a little of the dried apple mixture and a little more flour until you have the whole well mixed. The batter must be the thickness of ordinary cake batter. Pour this into a well-greased cake pan, and bake in a moderate oven for one hour.—Exchange.

The Wild and Woolly East.

The far West accepts as just the general verdict that it is given to exaggeration, but in justice it should be said that its efforts in this line are usually confined to descriptions of the products of the country, which frequently furnish a very good excuse for large tales. We think, however, the following extract from a New Zealand exchange is quite equal to any of our Western inventions in that line:

"A correspondent writing from Guna on the 14th ultimo says: Investigation on the spot has brought to light all the particulars of and some curious facts about the phenomenal floods which occurred at Bara and its immediate neighborhood on Saturday night, the 8th, and carried away a considerable portion of the Guna-Bara railway embankment. The tremendous fall of rain, which appears to have been quite local, registered fifteen inches in three hours, and the downfall was terrific. In the narrative of the station master of Bara, and of natives who were caught in it, the drops of rain are described as being the size of watermelons."

Condition of Show Animals.

(Condensed from Farmers' Review Stenographic Report of the Meeting of the American Association of Fairs and Expositions.)

Mr. A. J. Lovejoy of the Illinois State Fair read the next paper which was entitled: "The proper condition of show animals." He said in part:

"Let your mind travel back to the days when the Duke of Richmond, the greatest show bull of his day was always in the highest condition every day in the year. Did the carrying of great flesh injure him as a breeder? Never. Again, take the great cow 'Abbess,' an Angus, the World's Fair champion if I mistake not, also the great Mary Abbotsburg, also loaded with flesh, and every year a breeder. Take her great sire, Young Abbotsburg if you will, or the wonderful Hereford bull Nave, the all-around champion of a score of great shows. Both of these were regular breeders and sires of winners. And again take the Hereford bull Ancient Britain, or Mr. Sotham's grand bull Thicket or the \$5,000 bull. Did they lack breeding quality? I think not. Let us not lose our heads and drop this great evidence of the meat producing animals. Do you think a judge will ever be found that will overlook thorough development for high flesh for one of medium condition? I think not.

"The man that wins the blue is the man that knows just the kind of an animal to start with and that knows just how to bring him or her out in just that condition to best represent the breed. An animal should also be shown in an appropriate manner. What would you think to see a ponderous pair of Clydesdales coming into the ring for draft teams in harness hitched to a pole buggy? They would be entirely out of place. The same might be said of a pair of gentleman's drivers. Instead of being fitted to the highest point as most of the draft teams are, they should be in condition to perform the kind of work they are intended for, viz: fast road work. They should be in good-fair flesh but not fat. There is a vast difference between flesh and fat. This pair should have style, action and speed, the more speed the better. They should be well mated and full of spirit.

"Take the beef breeds if you will. There is probably as much skill shown in the feeding of beef cattle as there is in the painting of a sunset. The man that can bring his herd out in perfect bloom and not overdo it is a thorough artist in his line. I have seen cattle come to our fair in not even good farm condition and again have seen beef herds so overdone that they were practically worthless. Neither of these extremes are proper. The beef animal that wins on its merits should be in full flesh at every point, nothing must be lacking in flesh, handling qualities, or ability to walk with ease. They should show lots of breed character.

"In showing a dairy herd a very different condition is proper. The dairy herd should show good care at every point and be up-to-date in every way to best represent the breed to which they belong.

"In the sheep peas one will also find there are artists. It is right that sheep, especially the mutton breeds should be brought out in full flesh, and like the beef cattle, should show their ability to carry a large amount of high class meat in the most valuable part of the carcass. To do this and not lose the breed character is the proper condition for sheep. The man that brings sheep to the fair in what is called 'fold condition' will never win a prize.

"While the hog is a meat producing animal and should show his ability to make pounds of meat of the highest quality in the shortest time on the most economical basis, he should not be a carcass of blubber or an animated lard keg. He should show good firm flesh, just a little mellow to the touch and be well filled at every point. To do this, show animals should be selected with care and only the best specimens shown. The selection should be made early enough in life to make the proper start. I think the reason so many fail of success in the show ring is on account of their lack of judgment in making proper selections and then failing to feed in such a manner that every animal will have developed evenly and by fair time be in full bloom. I have acted as judge in every swine department in nearly every state fair in this country and know how few hogs ever come into the ring in proper condition. To win in the swine class the animal must be in prime condition and every point fully rounded out, and they must be of the popular type, that is the type that shows early development. They must stand up well on their toes, be able to walk easily and gracefully. The coat should be bloom and of fine appearance, the skin clean which indicates a healthy condition. The head should be uniform in type as far as possible, and full of the character they represent."

Mr. Lovejoy also spoke of the condition in which poultry should be shown but said he was not a poultry man and would therefore confine himself to a few general suggestions in regard to brightness of combs and plumage, clean legs and feathers.

During the discussion which followed the paper, Mr. McKerrow said: "Most of the animals you have mentioned put on flesh on account of their training and feeding so that they were in condition to be taken home and brought down, and all were in the hands of master workmen who could not only bring them up but bring them down again. Where animals are brought up to the highest condition

and then sold into the hands of men who are not artists, they are apt to go to pieces." Mr. Lovejoy admitted that the more critical thing was to take them back and get them down to useful condition without injuring them.

Mr. Leggett thought that judges in the ring should judge as they would if buying the animals. That he believed to be the only way in which this matter of overdone animals could be remedied. Mr. McKerrow endorsed Mr. Leggett's position but said: "An animal might come into the ring that was a perfect model and yet his age would prevent his being bought in preference to a young, inferior animal. And again some judges are willing to buy an animal carrying a large amount of flesh because they know they have the ability to bring him down in such a way as to get the best out of the animal. Another judge may be afraid of an animal carrying a great amount of flesh, because he don't know how to handle such an animal, and if he judged as he would buy he might work an injustice."

Further Proof of the Tick Theory.

In one of the reports of the Missouri State Board of Agriculture, a gentleman by the name of Edson brings forward arguments to disprove the tick theory of Texas fever. He is answered by J. W. Connaway, veterinarian of the Missouri Experiment Station, who says in part:

The southern cattle become infected with the germs of the disease when young at a period when they are naturally most resistant to the disease, and as they grow older they acquire the power of preventing the deadly action of these parasites. The animal is said to have become "immune," that is, the cells of the animal body have acquired the power to protect themselves against the parasites that have invaded the blood, and as long as the animal cells retain this resistant power the health of the animal remains good. It sometimes happens, however, that the vitality of an immune animal is lowered from some cause and the cells are unable to maintain the fight against the Texas fever parasite; then the animal succumbs to Texas fever just as the northern animal does. Such cases, however, are quite rare. It is only under extraordinary conditions that this occurs. Mr. Edson mentions having seen a case where six or eight southern cattle died of this disease. A very interesting case of this kind fell under my observation.

In the early part of last winter I made a post mortem of eight head of southern cattle that died from the fever and saw twenty-five or more yet alive and affected with the disease. The circumstances that brought about this result were as follows: The cattle, yearlings, were shipped from southern Texas where it was yet quite warm, to north Missouri, where winter had set in. The young cattle were not in a thrifty condition they were fatigued from the long journey and they were still further depressed by dipping in a cold oil bath to kill the ticks. All these circumstances combined to so lower the resisting powers of the cattle that the blood parasites got the upper hand and caused in quite a number of the cattle, acute attacks of Texas fever. The typical signs, an enlargement of the spleen, clogging of liver, bloody urine, etc., were present.

Mr. Edson further observes: "Take cattle from Iowa here and nine out of ten are sure to die with it." This shows that there is something on the southern soil that is closely connected with the disease. That something has been proven to be the southern cattle tick, which inoculates the cattle imported from the north with the germs of the disease. Northern cattle will not die from the fever when taken south if the germs are kept out of their blood. The experiment has been made by putting northern cattle on southern meadows where no cattle have been for several years, and consequently are free from ticks. These animals live and thrive in the south under such conditions, showing not the least signs of the fever. These cattle are attacked by the black fly and other insects, drink the same kind of water, eat the same kind of food and are exposed to all the conditions as other cattle, with the one exception that they are free from ticks and they remain free from the fever. They soon contract the fever when turned on tick infested pastures.

In regard to curing the disease, this is of much less importance than keeping it out of the state, and if the efforts of the state board of agriculture have at any time been unsuccessful, the lack of success is due in a great measure to the wrong notions held by many stockmen and farmers in regard to the disease. If all will accept the fact that the southern cattle-tick is the carrier of the disease and will join with the board of agriculture in their efforts to prevent tick infested cattle finding their way to Missouri pastures, there will be no need of a cure.

Mr. Edson's observations on Texas fever are quite correct even if his interpretations are wrong. I think I have satisfactorily brought all his observations into harmony with the true cause of the disease. He makes one statement that is incorrect, namely, that the ticks lay their eggs on the animal. Lice propagate in this way, but the ticks do not. The ticks hatch their young on the ground. It is this fact that makes pastures and cattle trails dangerous several weeks after the southern cattle have passed along.

Some men have to sit down and think in order to ascertain where they stand.

Tastes differ. Some people can see beauty in a looking-glass, while others can't.

A Horseman's Experience.

We republish the following from the Spirit of the Times:

Uncle George Fuller, writing from the government stud of Russia, the trotting department of which he is the superintendent, says:

The government has enlarged the plant from time to time, and has undertaken the systematic breeding of heavy draught horses as well as trotters, and today the barns on the place cover more than twenty acres of ground and furnish accommodations for 1,000 horses. The plant is under the control of military officials, about a dozen officers, including a general, whose headquarters are at St. Petersburg. At present the stud employs 270 men to take care of the horses. The stables are all built of brick with walls from three to four feet thick, while the windows and doors are of double thickness—an admirable and necessary arrangement to keep out the cold in winter. During the winter season the horses are kept stabled, but in the spring and summer are driven out upon the steppes in droves of 50 and 100 head, as cattle are herded on the western plains of the United States.

The "Orloffs," as a rule, are good individuals, with shapely heads and necks and heavy tails, which latter are docked so that the ends strike just below the hocks. While they do not possess the speed of the American trotter, they are equally as well if not better gaited, and their power of endurance is something marvelous. After spending two weeks in St. Petersburg, in company with the general in charge of the imperial stud, I proceeded to Krenovoi, which is 800 miles southwest of St. Petersburg. We were met at the railway station with the regulation winter conveyance—a low sleigh with three horses hitched abreast, a trotter in the center and a runner on each side. Then commenced the journey to the stud, and never will I forget that trip.

After we were seated in the sleigh and were comfortably wrapped up in the fur robes the driver, who does his teaming standing upright, gave an Indian war whoop and we were off. The first jump took my breath away. The snow flew in every direction, and as we whizzed around corners the sleigh would ride on one runner, and I expected every moment to be spilled out and have my neck broken. The driver never ceased his whooping, and altogether I think I rode faster on that trip than I ever did before in my life. When I finally landed at the stud, more dead than alive, I said, "No more Russian sleigh rides for Uncle George."

A Russian race track is a funny thing. First there is a bit of track, just wide enough for one sulky, then parallel a strip of turf a foot and a half high and two feet wide, then another bit of track, and so on. This is done so that one horse cannot interfere with another. So you see foul driving is unknown in Russia. At St. Petersburg I was much impressed with the fairness and system with which the racing was conducted; indeed, the promoters of racing in the United States could with advantage to the sport copy in many respects from the Russians. In all contests absolute fairness is demanded. Since I have been here I have had a track built on the American plan, and my classes are instructed over the new track.

Every June a racing meeting is given at Krenovoi, and usually a number of government horses are started in some of the races. Heretofore it was the custom for the head trainer to do all the driving, but this year I put up the advanced students. This proved a popular innovation, especially as out of five starts the government horses won four first moneys and one second. I was congratulated on all sides on the success of the change. I am very well pleased here, and I think my employers are equally well satisfied with the way things are going.

Skimmilk for Paper Finish.

The Pennsylvania State College bulletin thus describes the process of preparing skimmilk for paper finish: The skimmilk is run into a vat and either treated with sulphuric acid to coagulate it or raised to a temperature of about 140 degs., when the milk will coagulate. The whey is then drained off and curd drained on racks covered with a coarse curd cloth. After draining a sufficient length of time, the curd is put into a press and pressed in a manner very similar to the old fashioned way of pressing cider pomace. When the free whey has been expelled in this manner, the cakes of curd are put through a peculiar shaped curd mill, consisting of a hopper so arranged that the curd is forced through a sheet of galvanized iron perforated with holes about the size of a pea. It is then put on wire cloth trays, about 30 inches square, in a thin layer, and the trays piled on small trucks and put in the drier. The heat is supplied from the boiler, and is maintained at as even a temperature as possible during the time the curd is being dried, which is from 18 to 24 hours. When dry, the curd is scraped off the trays into a bin, where it is sacked, stored and shipped once a month. Three and a half pounds of curd, worth at present 5 1/2¢ per pound, are produced from 100 pounds of skimmilk. The cost of putting in a drier curd plant in a creamery handling 10,000 lbs. of milk per day is about \$150, and it requires one hand to handle that amount, and additional help when the yield is above that.

The editor of a Tennessee town, who stated in his paper that the new century would begin Jan. 1, 1901, was ridden out of the town on a rail.

Some Facts Regarding Broomcorn.

A Circular from the University of Illinois says:

The extremely high price of broomcorn has aroused public interest in this crop to such an extent that the department of agronomy of the University of Illinois is preparing a bulletin upon "Broomcorn Raising as a Suitable Industry for Illinois Farmers." Among the facts that will be brought out and the conclusions reached the following are some of the most important:

Broomcorn is a close relative of Indian corn and flourishes on the same soil and under the same conditions. Therefore, Illinois is naturally well adapted to the production of broomcorn, especially through the middle section of the state. The preparation of the ground and the cultivation are much the same as for Indian corn, only it must be more thoroughly done. To produce a ton of broomcorn under fair conditions requires about three acres of land. The cost of production under the best of conditions is \$50 per ton; the average selling price is about \$70 per ton, though it has sold as low as \$30.

This is a crop requiring an immense force at harvesting, a thrashing gang numbering not less than twenty, and the harvesting season attracts to the community as laborers or as camp followers, a swarm of most undesirable characters. The business requires a special outfit of tools and sheds costing \$800 to \$1,000, that are of little or no value for other purposes. The crop is a precarious one that may be ruined by a few days of bad weather, and its successful growth and harvesting require a high degree of knowledge and special skill. The world's consumption of broom, according to the best authorities, is about 30,000 tons, and there can be no sudden increase, because it is used but for one purpose. This 30,000 tons is produced on about 112,000 acres, or less than five townships of land.

Two-thirds of the broomcorn of the world is grown in four counties in Illinois—viz., Douglas, Coles, Moultrie and Edgar, with Arcola as the most important shipping point. In favorable years these counties have produced 28,000 tons, or practically the world's supply. The territory and the men already engaged in broomcorn growing could easily double the present production if warranted by the demand.

The present price is the result, neither of an unprecedented demand nor of a short crop, but of a slight increase in activity in a limited industry, giving rise to peculiar market conditions. The grower has not realized these prices, nor could they have been established until after the crop was practically out of the hands of the producer. Attracted by large quotations many novices will plant extensively the coming year; the result will be an enormous overproduction of broom, much of which will be of inferior grade. It is and will always remain a little industry, because the demand is not only limited but small. Isolated individuals and those remote from recognized methods are at a serious disadvantage.

The university is interested in the extension of every industry suited to Illinois conditions and that will diversify the agriculture of the state, but it realizes that any considerable and sudden increase in one that calls for special knowledge and for which the demand is limited is certain to result in loss to the individual and in a serious damage to the industry. This is not a favorable time to embark in the business, and whoever feels impelled to undertake it should first visit the broomcorn district and fully acquaint himself with the particulars of the industry.

The Modern Wire Fence.

The advantage possessed by the wire fence over the old-fashioned rail and board fence is great. The old fences took up a vast amount of room and were the harboring places of all kinds of insect and weed enemies. Often the amount of land kept out of cultivation by the big sprawling fences was a large per cent of the best land. The weed seeds collected there every fall, and the weeds sprang up thickly every spring and at seed time sent their myriads of embryonic plants over the fields to spring up in turn in the sown field and harass the husbandman. These weeds, by the fence were always well nurtured, for the snows collected over them and in melting increased the fertility around their roots. Often they received more needed moisture than the valuable plants in the open field, and so were the more ready to take the lead of the procession. With the advent of the wire fence the weeds got a backset. The scythe could run right under the wires, and the weeds found themselves assailed on both flanks. The snow does not accumulate much in the protection of a fence wire, and the weeds that remained got no extra cooiling from that source.

The man that has a first-class and well-built wire fence has something that will remain with him for years. There is no necessity of an annual campaign to put it in shape, as there used to be with the board fence. When a heavy gale comes the farmer does not have to go out in the morning and begin the task of righting half a mile of fence boards and posts. The old board fence disfigured the farm, for it was too extensive to keep white-washed. Every mishap increased the disfiguration. Not so the wire fence. The gale comes and it stands. The rain and ice come and it bears up under them. If by any chance a wire is broken the fact does not cause a disfigurement to the general whole. Altogether the wire fence is in every sense the modern fence and its presence denotes progress.