

BEAN ANTHRACNOSE, BOTH COMMON AND SEVERE

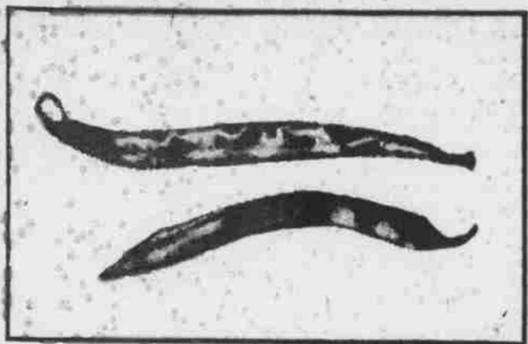
Injurious Disease of Plants in Iowa, on Some Varieties of Which It is More Destructive Than Others.

For a number of years, reports have come to the botanical section of the Iowa experiment station of the injuriousness of bean anthracnose, a disease which is both common and severe in the state. On some varieties of bean it is especially severe.

The disease makes its appearance in small reddish brown spots, which rapidly increase in size, soon forming large and irregular spots. The center becomes dark with a brownish border.

of the bean occurs largely perhaps, by infection of seed in fruit, to which Dr. Halsted first called attention.

The disease spreads rapidly from pod to pod (as for example in the market-places), as has been shown by repeated inoculations in the laboratory, when, under the most favorable conditions, a spot may be established upon an otherwise healthy plant or pod in 36 hours. The infection is from without, and may be by means of wind,



Bean Affected by Anthracnose.

Throughout the spot occur small irregular raised portions in which may be found the reproductive bodies. The fungus also occurs on the leaves and stem. It is frequently so severe on the stems that they are more or less riddled with holes. It not infrequently occurs on the young seedlings in the form of brown, discolored, sunken spots. The spots or cankers may be so severe that many seedlings are killed.

The colored or nearly colorless branching separate mycelium penetrates the tissues of the pod and bean.

dripping water bearing the spores, or through the agency of insects which visit the bean flowers for their honey and incidentally convey the germs with the pollen they are distributing among the flowers.

Prof. Whetzel calls attention to the mode of infection in bean plants. The disease makes its first appearance on the bean seedlings, as they come up. It may then be detected as brown discolored sunken spots or cankers on the seed leaves or the stem. The early appearance of the disease is due to the fact that the



Musk Melon Affected by Anthracnose.

Masses of threads collect at points, which causes a collapse of the cells of the host plant and a breaking of the epidermis. From the mass of mycelium a spore-bearing layer is produced. The layer contains brown hyphae, known as setae, which do not produce spores, and ordinary erect threads of basidia which bear the one-celled spores or conidia. The small ostioles contain a large number of spores which are held together by a mucilaginous substance. The common expression is that they "ooze out" forming pink masses. Water causes the mucilage to dissolve and the spores become separated. Infection

fungus is usually carried over winter in the seed and so is already in the bean when it is planted.

Gain found that the disease spread from infected seed, or from presence of spores placed on a seed or in the soil.

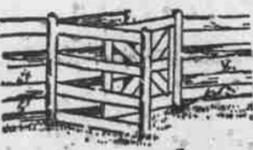
Dr. Halsted, in a series of inoculation experiments, transferred the fungus to watermelon, and Dr. Farlow reports it on watermelon and nutmeg melon. It is found in England, according to Carrothers.

Mr. H. F. Whetzel, after long observation, finds that selection of clean seed is the best means toward control of the rust.

SUBSTITUTE GATE TRAINED FARM BOYS VERY HANDY IN DEMAND

Arrangement Herewith Illustrated That is Always Closed to Animals, But Open to Man.

There are places where a common everyday gate is an utter nuisance and where a turnstile or some other gate substitute or contrivance is particularly convenient and welcome. With the arrangement herewith illustrated the gateway is always closed to



A Substitute Gate.

animals, but men may pass through it without difficulty. The accompanying drawing will give a clear idea of the plan. The sketch is made to represent a very small gate, but to answer all purposes the wing panels and gate perhaps should be a half rod in length.

A Happy Hen.

A happy hen will make a happy master.

The demand for young men who have been reared upon a farm and trained in the science of agriculture is greater at the present time than ever before. The increasing needs for teachers and investigators are far greater than the supply of young men with the proper experience and training.

The type of young man in greatest demand at the present time is the graduate of an agricultural college who has been raised on the farm and has had practical farm experience with a high school education before entering the agricultural college. Such a young man is able to succeed in teaching various lines of agriculture and may take up investigational work with reasonable surety of securing valuable results.

The demand is for highly trained men who can do things with the assurance of good results. The demand for capable farm superintendents, managers, stockmen and dairymen is greater than the supply. The average young man can usually get a place, but the best positions are awaiting those with widest experience and most thorough training.

Thrifty Chicks.

What is prettier than a bunch of thrifty chicks, all of one color and breed, and as much alike as so many peas?

NEW CURTAIN IDEAS

MAY BE MADE FROM CHEESE-CLOTH AND MUSLIN.

Lovely Window Hangings and Portieres That Any Bright Girl Can Devise at Small Cost of Time and Money.

To the woman who is her own home decorator, the window curtain furnishes a new opportunity. Women 500 years ago used to spend a lifetime embroidering these hangings.

The modern woman would scarcely think of making a life work of tapestry. She cares more for bold, sketchy designs, that make a good effect with the minimum amount of work.

For summer homes, in particular, there are very attractive curtains and portieres that may be embroidered at small cost of time and money.

Ordinary materials like unbleached muslin, dotted muslin, cheesecloth or sheer lawns can be used, while for portieres or outer curtains, cretonnes, art linens, striped ticking or galatea and cotton or linen taffetas in plain colors give good results.

A girl last winter worked a set for the living room of her country home that have called forth more admiration than curtains costing three times as much generally receive.

The room being done in a soft gray, the curtains were made of gray cheesecloth of a fine quality. Down one side and across the bottom of each curtain was a border four inches wide of scattered conventionalized leaves outlined and darned in a soft blue-green.

The straight outer lines of the border were outlined and the spaces between leaves also darned in. But four colors were used, all in the loveliest pastoral tints of green, blue, dull pink and yellow. At intervals of ten inches on the border was a large six-petaled flower, the edges of the petals extending a half inch or more on each side of the border. This was worked solidly in a creamy white, shaded with green, the centers filled with yellow French knots.

Heavy mercerized cottons of high sheen were used for the embroidery, and with the exception of flowers, which were worked in shaded Kensington stitch, the work was done in outline for the edges and plain running stitches about a quarter of an inch long to fill up all the empty spaces and give a glossy, solid-looking surface.

A girl with any small pretension at drawing could design such a border for herself. Draw two straight lines four inches apart as a foundation of border, scatter across it diagonally from edge to edge a conventionalized vine of any long-pointed leaf; connect by stems an eighth of an inch wide, and at ten inches cross band with single flowers, such as nasturtium, wild rose or chrysanthemum.

The design is first outlined and then filled in with the darning stitches, care being taken that the coloring is arranged to bring out each separate part. This border, simple as it is, gives opportunity for original color effects. If desired the flower could be one used in wall paper or border.

Spanish Chow Chow.

Half a gallon green cucumbers, after being peeled and cut up, sprinkle with salt and let stand six hours. Press the water from them and scald in vinegar. Prepare half a gallon of cabbage in the same way. Chop one dozen onions and let stand in boiling water half an hour. Also chop one quart of green beans with one dozen small, young ears of corn. Scald and drain and then mix two tablespoonfuls of grated horseradish, one teaspoonful of ground mustard, two cups of white mustard seed, three tablespoonfuls of turmeric, one tablespoonful of mace, three tablespoonfuls of celery seed, one tablespoonful of cinnamon, one tablespoonful of cayenne pepper, two tablespoonfuls of olive oil, one pound of sugar. Put in a jar with the prepared articles for catsup and cover with boiling vinegar. The horseradish and celery seed can be omitted subject to taste. Use only best olive oil.

Save Scrubbing Brushes.

Bad usage is, more often than not, responsible for the short life of a really first-class scrubbing brush. After using the brush, never lay it upside down, as any moisture on the bristles will sink into the back and make the brush soggy. For the same reason the household broom should never be placed in the corner with the straw part upward. Instead, fasten it to a catch in the wall by a piece of string tied firmly to the end of the handle or run through a hole in it.

Keeping Olives Fresh.

When a bottle of olives has been opened and not all of the olives have been used, put in a teaspoonful of pure olive oil or enough to cover the top of the liquid remaining in the bottle, and the olives will not become flat and stale.

Cleaning the Sewing Machine.

A bicycle pump will clean a sewing machine when it is clogged with dust and it seems impossible to reach the parts with a cloth. Blow out all the little particles with the pump, finally cleaning with a soft cloth and oil.

Corn Cakes.

Put two slices of stale bread in one quart of sour milk. Let stand overnight, then add one teaspoonful of soda and one of salt, beat up two eggs, use one-half flour and corn meal. Make a thin batter.

THE DAIRY



MILK THIEVES ARE BALKED

Device Invented That Locks Bottle to Door Jamb and Keeps It Safe Until Released.

Only the police know the thousands upon thousands of milk bottles that are stolen in a big city in a year. Most of the milk thieves are poor folk who are too hungry to resist the temptation of food and drink so easily reached and the New Jersey man who invented the patent bottle holder did them a good turn when he removed the temptation from their path, as well as saving householders and milkmen a pretty penny. This holder comprises two clasp members which fit around the bottom and neck of the bottle. A bingelike affair acts as a lock and retains one end of the upper clasp, the lower one being already fast to the wall or door jamb, as the case may be. The milkman sets the bottle in the lower ring, adjusts the upper ring around its neck and snaps the lock, delaying early morning prowlers to get



Prevents Theft of Bottle.

the bottle away. In the same way the housewife can prevent other sorts of thieves, who steal the bottle for the trifling value, by locking the empty ones up.

CARE OF THE YOUNG HEIFER

Many Important Points to Be Considered if She is to Be of Greater Value Than Mother.

In calf feeding, at the end of four or five months is the parting of the ways for the steer and heifer calf. If the heifer is to be reared with the view of making her a dairy cow of greater value than her mother, then she must be fed for milk production.

This is an important item if farmers are to produce their own cows, which is the cheapest and best way known to me for securing a dairy herd.

To the unobserving it would seem incredible that a heifer calf could be ruined for future usefulness in the dairy by the manner in which she is handled the first few months of her life.

We know that the heifer calf can be ruined. She can be stunted and made an animal of small capacity.

Her digestive apparatus can be ruined and she can be made a snicky feeder, one of those animals not eating abundantly and never finding that which is good enough to eat.

The heifer calf, while feeding should not be allowed to become fat. She should be kept sleek and glossy, full of vitality and muscular.

If you educate the heifer calf to put her food on her back in the shape of fat she will then have that tendency when she becomes a cow. Therefore she should not be fed much corn. She should be fed the flesh-forming foods.

She should be fed large quantities of the best roughage that her stomach may stand so she may handle large quantities of fat when she is required to do so, as she will be when she becomes a milk cow.

If there is a surplus of skim milk on the farm the heifer can utilize this to exceptionally good advantage.

Dairying is Profitable.

The dairy business as a whole is now upon a profitable basis. One thing remains. We need as a whole a shorter working day. Other agricultural activities make long days during some special busy time. The dairy calls for early rising every day in the year. A fellow can work on his nerve much of the time if he can let up occasionally. To offset this steady demand upon time and effort, if judiciously managed, is the constant, never-falling daily income. Speculation such as one experiences in crop growing is quite largely removed. The country is dotted with beautiful farm homes made possible by the dairy cow. No other influence would have fitted the disposition and temperament of the owners.

In the Dairy.

Owing to the poor feed in the pastures and the high price of grain, no money was made in milk production last year. The day of cheap grain is past, and in the future the producer must plan more to raise his own grain. The price of milk has advanced somewhat in proportion to that of grain, and is one-third higher than it was eight years ago, and is now higher than at any time in the past 20 years.

COLD STORAGE IN ICEHOUSE

Kept an Even Temperature in Summer and Useful in Winter for Perishable Products.

The storeroom described in the drawing may be added to any icehouse already built.

The storeroom should be four to six feet square, just large enough to accommodate the amount of milk and butter produced on the farm.

The room should be provided with a ventilator at the top about one foot



Cold Storage in Icehouse.

square and two feet above the top of the room.

The doors leading to the room should be on the north side of the building. Each door should have a sash at the top. The sketch shows only the inside door. The room should be of matched boards and the top covered with tin. The floor should be of concrete.

The house proper is built with double walls, the space being filled with sawdust.

The dotted lines in the drawing show the outline of ice when house is filled. The space between the ice and the wall, eight inches, should be packed with sawdust.

The temperature will keep at about 25 or 30 degrees during the summer, and during the winter if the sawdust is piled upon and around the room it makes a fine place to store a few select vegetables or fruit.

BRUSH FOR WASHING BOTTLE

Designed with Purpose of Reaching That Portion Which Heretofore Was Only Rinsed Out.

An invention of paramount importance to dairymen and farmers who sell much milk is the milk-can brush invented by a Minnesota man. This brush is designed particularly with the purpose of reaching up under the shoulder of the can and cleaning that portion which heretofore was only rinsed out. As can be seen in the illustration, the brush is a wire framework with bristles on the outer edge. It is curved so that when it is lowered



Keeps Impurities from Milk.

to the neck of the can the upper part fits naturally in the shoulder of the receptacle, which is otherwise almost impossible to thoroughly clean by hand. At any rate, the work of cleaning this portion of the can is ordinarily so difficult that only the most particular take the trouble to do it. With a brush made for the purpose it is likely that the percentage of cans that will now be free from the impurities that collect on the inside will be much greater than before.

IN AND OUT OF THE DAIRY.

The most perfect milk can be quickly and easily spoiled.

Untreshed cowpox hay, well cured, ranks among the best of dairy feeds. Where cow's teats are tender they are easily scratched. Put on linseed oil just after milking and keep skin pliable.

Milk and cream are the first food an infant has and should be kept scrupulously clean. If this is done the farmer or dairymen will prosper, accordingly.

The sticky substance in milk known as albumen can be rinsed off the milk pans with cold water, which should always be used first. Boiling water will cook it on.

To make the best country butter one must not let the cream get too sour, nor skim sweet cream and put with the sour. Let it all ripen at once and the butter will be much better and keep better.

A woman in Illinois who makes fine butter writes that she skims the cream of two or three days' milk together, letting it all sour at one time, and churns as soon as it is sour. She makes pound rolls and her butter always commands the highest price, her customers preferring it to creamery butter.

As a rule milk is unfit for use at least two weeks before calving time. However, some cows' milk seems to be good almost up to calving time. Milk is usually not saved for home use until the eighth or ninth milking afterward, although it has been known to be perfectly good after the fourth milking.

BATHS RENEW LIFE

BEST KINDS TO REFRESH ONE IN SULTRY WEATHER.

Lemon Juice, Witch Hazel, Sea Salt, Lavender Water and Cologne All Good—Try Croella for Mosquito Bites.

There is nothing more refreshing these hot days than a bath, either hot or cold. The former in very hot water is more cooling than the cold plunge, which acts as too much of a tonic.

Baths are not equally refreshing. Plain soap and water are all right for cleanliness, but when a bath is intended to put new life into us, when half dead with heat, it is well to choose some of the medicated ones, whose tonic values were well known to the ancients.

If nothing better offers try a lemon bath. This is much in favor with Cubans and deserves to be better known. Squeeze the juice of two lemons into a bath of hot water. When it has cooled sufficiently it will be found wonderfully refreshing.

Witch hazel baths are cooling and refreshing, particularly if one is troubled with prickly heat, mosquito bites, or stiff joints. Pour in a goodly supply just before stepping into the tub. Witch hazel can be bought by the gallon or larger quantities much more cheaply than by retail.

Sea salt has all the value of a dip in the ocean if used in one's own tub. It can be bought by the package and should be dissolved several hours before bathing. This can be done either by soaking the salt in a pitcher or by drawing the bath and putting it directly in that.

If one suffers from mosquito bites or bites try a bath in which a little croella or carbolic acid has been dissolved. The itching is quickly allayed. Care must be taken not to have the solution too strong. Boracic acid is also excellent used in the same way.

For purely refreshing baths have in the bathroom toilet water, lavender water or a good cologne. These sprinkled liberally in the bath on a hot day will make you feel like a new being.

Many different kinds of bath powders are now sold. Some of these have decidedly tonic effects and are worth all the money expended on them in refreshing effects. They cost much less than people imagine, as the box will last for numerous baths. Your druggist can tell you of those that he can recommend.

Good Desserts and Economy.

In cooking remember that food can be used in a hundred ways. Don't be afraid to use your brains and study the materials. Different and delicious puddings can be made from the merest "remnants" if wisely combined. Take bread crumbs for the foundation or small strips of dried bread. Place in the bottom of a buttered dish and sprinkle in layers whatever fruit or fruits may be in the house, with bits of butter added. Should you have only a few cherries, not enough, add finely cut apples or raisins. Be sure that the flavors agree. Or there may be a few berries; cut up an orange and eke out the amount, always putting the layer of crumbs on top. Then pour enough fruit juice to soften the crumbs and bake about 30 minutes. Vary this juice to pour over it according to your fruit. If using sweet raisins use tart orange or lemon juice or combine them, or make a juice of tart jelly melted in water. Some like finely cut nut meats sprinkled in the crumbs. If the pudding is not too sour serve with cream or any sauce.

Neatly Tied Shoes.

Nothing is more untidy nor more troublesome than shoes that slip and become untied. This can so easily be prevented that it is the more inexcusable. If a lace has one loop pulled through the bow that is tied in the usual way and is then given a firm pull it will rarely become undone. If ordinary mohair laces or even silk ones are slightly waxed they stay tied much longer. Should the metal end come off either a shoe or corset lace it can be pulled through a hole quite easily by waxing ends to a point.

Appetizing Luncheon Dish.

For an appetizing luncheon dish boil eggs hard, take off the shells while they are still hot and remove the yolks without breaking the whites. Mix flaked cold fried halibut with the yolks and season with a little lemon juice, salt, pepper and a little mustard. Fill the whites with the mixture and stand them in a nest of hot boiled rice. Turn over the dish a cream sauce, into which button mushrooms have been stirred, and sprinkle with minced parsley.

Spanish Tamale.

The following ingredients are for two dozen tamales: Three dozen ears of corn, one chicken, two dozen chile peppers, one quart of olives, two pounds of raisins, two cupsful of good fresh lard, and salt to season. Scrape the corn from the cob, mix with the chicken minced moderately fine, and then add the other ingredients. Divide in two dozen small portions, and tie up in the husks. Steam or boil until thoroughly done. This is a genuine Spanish made tamale.

Tasty Luncheon Dish.

Spread thin slices of toast with butter and anchovy paste. Put a poached egg on the top of each slice; turn over the whole a drawn butter sauce flavored with anchovy sauce and serve very hot.