

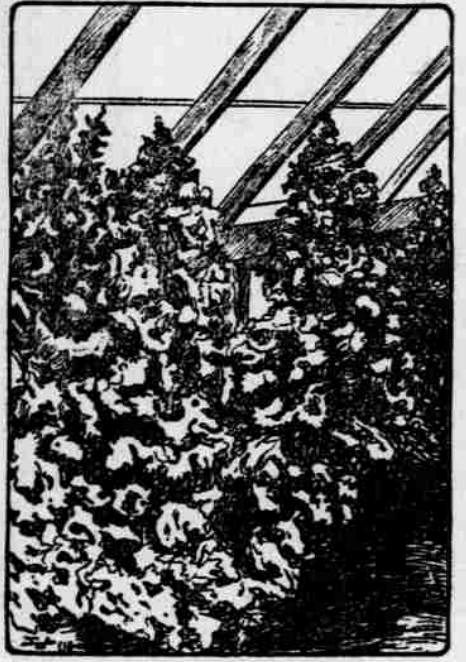
FARM AND GARDEN

NEW WINTER LETTUCE.

A Large Type of Plant Able to Withstand Disease.

The bureau of plant industry recently reaped its harvest of excellent lettuce seed from a large plot which it had under cultivation in close proximity to its chief's offices in the grounds of the department of agriculture. The interest attached to this particular yield is that it is seed of a type of lettuce sturdy and strong and able to withstand the diseases to which forced lettuce is heir.

From \$2,500,000 to \$3,000,000 worth of lettuce alone is forced in the United States each winter. Greenhouse gardeners in an endeavor to get rich quick



THE NEW STURDY LETTUCE.

(Six weeks old and three feet high.)

have failed to note that this forcing was weakening their stock until now the weak lettuce often becomes so diseased in the hothouse that it is by no means rare for a gardener to lose an entire crop of greenhouse lettuce by a disease to which these overstrained plants are particularly liable.

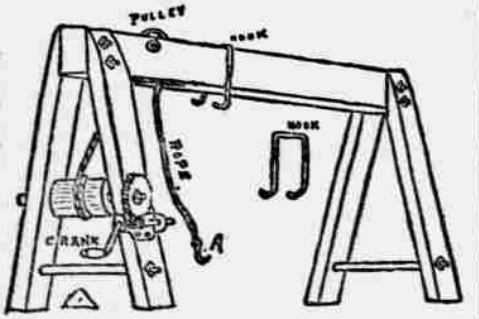
Dr. B. T. Galloway, chief of the bureau of plant industry, in order to correct this evil has been working for two seasons on this subject and has at last succeeded in obtaining a crop of winter lettuce plants immune to the lettuce disease. At the same time the plants are of large size and capable of developing as early as the most specialized winter lettuce.

From these extra large early and fine heads another crop was raised and the seed sown. The seed from successive crops, carefully examined and selected from time to time, was planted during the past summer in the department's experimental plot and the seed finally secured carefully guarded and later distributed to greenhouse men and state experiment stations. It is believed, concludes American Cultivator, that through this work will be saved from ruin the winter lettuce industry, which for the last three years has been threatened with extinction.

WHEN SLAUGHTERING.

An Arrangement For Raising and Hanging a Hog.

Here is a butchering device that may be of interest. By its use any one can hang a hog or small beef or, in fact, several of them at a time if you make a long top stick and several



BUTCHERING DEVICE.

clevis hooks to operate hook A into. Spread stick and wind up rope, then lower spread stick into clevis hook and slide out of the way. When not in use remove the two lower bolts and fold up like a jackknife. The gear wheel and worm can be had at any machine shop.—Ohio Farmer.

Care of Frozen Trees.

There is a saying among nurserymen that "it is the thawing and not the freezing of the roots of trees that injures them." If trees arrive in a frozen condition the best thing to do with them is to plant them at once or imitate the process as near as possible by packing the roots in soil or sand without exposing them to thawing. Let them thaw out slowly—the slower the better. It is not a good plan to throw the roots into water. If the roots are allowed to thaw in a cellar without cover or if exposed while frozen to warm air they will be seriously injured.—Country Gentleman.

Luxuries of the Farm.

The annual products of dairying, of fruit and vegetable raising and of poultry keeping aggregated nearly \$2,000,000,000 in farmers' hands in 1905, or three-fourths of the gross value of all farm products, and these particular products belong to the class of those for which there is a tendency of demand to be greater than supply. In the case of none of these products is there a desired quantity satisfactory in quality obtainable by consumers at moderate prices. The public is underserved in the higher grades of these luxuries of the farm.

PROFITABLE MANAGEMENT.

Properly Housing Machinery Prevents Rusting Out.

In the matter of profitable management the care of farm machinery is of importance. Writing on this subject in the Kansas Farmer, A. M. Ten Eyck gives some sound advice as follows:

Although it is essential to have enough good machinery to do the work well at the right time, yet the purchase of more machinery than is actually needed is often an element of unnecessary expense which may greatly reduce the net profits of the farmers who are improvident in this way. Buy the best standard machinery, even at the higher prices. The best is usually the cheapest. Make good use of the machinery and take care of it, both in the field and after the work is finished. Keep the bearings clean and well oiled, burrs tight and the machinery in good running condition when at work.

When Not in Use.

Shed the machinery when not in use. More machinery is rusted out than is worn out. In the western United States probably less than one-fourth of the farms are provided with machinery sheds. A farmer can make no better investment in adding improvements to the farm than by building a good machinery shed.

Cleaning and Repairing.

When machinery is brought from the field and put in the shed it should be overhauled and cleaned and notes made as to what repairs are necessary. These repairs should be secured, and on some rainy day the machine should be put into proper running condition for next season's work.

BLIGHT OF PEAS.

The Green Varieties Are Most Strikingly Affected.

In 1904 the damage in Ohio from this blight was apparently greater than in previous years. It was first noticed on French June field peas which had been sown with oats as a forage crop on the experiment station farm. A close examination of the diseased plants showed that the stems had been attacked at many points, frequently as high as one and one-half feet from the ground, though most severely near the ground, where the disease starts.

On the leaves were orbicular or oval dead spots one-eighth to one-half inch in diameter.

Perhaps the most important thing in connection with the life history of the



BLIGHT FUNGUS ON LEAVES.

fungus is that the vegetative part, or mycelium, infecting these spots of the pods grows through the husk into the seed. Frequently it grows entirely through the pod, forming similar spots on both sides. When the fungus grows into the seed, brown spots may be formed on the surface. In the worst cases half the surface is frequently discolored and the seed adheres to the pod. These areas are much more striking on green colored peas, such as the Market Garden variety, than on the yellowish varieties, such as the Admiral.

Horse Talk.

Many colts are given ugly tempers by cruel and careless currying.

To scratch and hurt a colt or horse will cause him to hate the operation and the operator.

Many currycombs are knocked all out of shape, and some of the teeth cut like knives.

Look at your currycomb. It is often an instrument of torture.

Teach the boys to use it gently and keep it in order.

Be generous in the use of the brushes, but sparing in the use of the comb.

Good grooming should be done every day to keep the pores open, the skin healthy and the hair silky. Soft hair is very warm and is a nonconductor of heat.

Never leave a reeking mess of wet straw and manure under the horses. It ruins the health and eyes and is a disgrace to any horse owner.—Farm Journal.

Failures in Sheep Breeding.

A large number of failures in sheep husbandry are traceable to lack of knowledge of how to handle domestic animals. Some will give too much attention and others insufficient. One is productive of as evil results as the other. No animal loves natural conditions more than sheep, and the closer they can be maintained under such the better. I knew of a man who went into the sheep business by purchasing a few very high priced sheep. He had no knowledge of how to handle the animals; consequently after they had been in his possession a few months he was disappointed because he was unable to produce as good results as the breeder from whom he had purchased the stock. Instances of this nature are very common. It is not the fault of the sheep, but of the man, in the larger majority of instances.—National Stockman and Farmer.

WATERMARKS IN PAPER.

The Ancient Device Used in the Time of Caxton and Faust.

Watermarks have proved themselves invaluable for safeguarding against the forgery of bank notes, bills, stamps, etc., though the difficulty experienced by the Bank of England in evolving a mark defying imitation was very great and was accomplished by the execution of forgeries innumerable.

Many a will has been set aside owing to false dates in watermarks, for, thanks to watermarks, we are under no uncertainty respecting the date of the existence of the paper. Ireland's celebrated Shakespearean forgeries were, however, perpetrated with skillful recognition of the watermark difficulty.

Driven to the production of manuscripts, he set to work to purchase old volumes for their fly leaves, and, hearing that the "jug" was the prevalent watermark of the reign of Queen Elizabeth, he selected such as had the "jug" on, being careful to mingle with them a certain number of blank leaves, in order that the production on a sudden of so many identical watermarks might not arouse suspicion.

Two of the earliest watermarks consist of a circle surmounted by a cross, representing the pastoral benediction of a priest. Post paper takes its name from the post horn, which mark appears on a shield, and in the seventeenth century is surmounted by a ducal coronet, in which form it is still met with on our ordinary note paper.

The ox's head was another ancient watermark, on which Caxton and Faust printed some of their books, but Caxton used a watermark in the form of the letter "P" for the "Game and Plays of the Cheese," first printed in 1474.

The first edition of Shakespeare, printed by Isaac Jaggard and Edward Blount in 1623, will, however, be found to be mostly on paper bearing a cap like a jockey's as a watermark, and the general use of the term "cap" for various modern papers is owing to marks of this kind.—London Globe.

Mirrors.

The earliest looking glasses, or mirrors, were of either metal, highly polished, or of black painted mica. It is noted in Jewish history that the laver was made of brass "of the looking glasses of the women assembling, which assembled at the door of the tabernacle of the congregation," and some commentators conjecture that these women gave up their bronze or copper hand mirrors to supply the material for the laver. Egyptian women always carried their mirrors to the temples, and the Hebrew women probably did likewise, as do the Arabian and Turkish women today. Glass mirrors are of comparatively recent date. Mirrors of silver and gold were commonly used in mediæval times. In 1360 Venice became the seat of the manufacture of glass mirrors, which have since superseded all other varieties, the improvements in the manufacture of plate glass enabling mirrors to be made of great size.

Origin of Ice Cream.

Though the ancient Greeks and Romans used ice for table purposes to get through even hotter weather than we have been having lately, they knew nothing of the "ices." These were introduced into France from Italy about 1600 and known at first as "fromages glaces"—iced cheeses—although they were made of strawberries, apricots, and so forth, and contained not a drop of cream. From 1762 the use of "glaces" in the plural was sanctioned by the academy, but not before 1825 did "ice cream" force its way into recognized acceptance. "Ices" are referred to from time to time in the eighteenth century in English people's letters from abroad. "Iced creams," however, were known as early as the year when William of Orange came over, and by the middle of the eighteenth century "ice cream" figured in cookery books.—London Chronicle.

An Anxious Boy.

While Archbishop Trench was dean of Westminster he delegated Canon Cureton to preach at the abbey on a certain saint's day. On such days the boys of Westminster school attended service and afterward had the rest of the day as a holiday. While Mr. Cureton, on the morning of the day he was to officiate, was looking over his sermon at the breakfast table his son asked, in a tone vibrating with anxiety: "Father, is yours a long sermon today?" "No, Jimmy, not very." "But how long? Please tell me." "Well, about twenty minutes, I should say. But why are you so anxious to know?" "Because, father, the boys say they will thrash me awfully if you are more than half an hour."—London Telegraph.

THE ENEMY BEHIND.

How a Hunter in Africa Was Saved by His Eyeglasses.

In writing of his hunting adventures in Nubia in Harper's, Captain T. C. S. Speedy tells how he was saved from the attack of a native by the reflection in his glasses.

"After a slight refreshment I spread my sheepskin rug a couple of yards off and, turning my back to the fire, kept a lookout in front, as owing to the precipitous stony cliff that rose on three sides of our camping ground I found it was next to impossible for any one to enter except in that direction. Suddenly a log which had been charred quite through fell asunder, throwing out a large shower of sparks, while a bright flame shot upward. To my surprise I beheld before me an extraordinary sight which held my attention fixed, though for a moment I did not realize what I saw. Immediately before my eyes was the diminutive figure of a native, evidently, from his mop of hair, one of the Hadendoa tribe, but only about two inches in height, spear in hand, which he was quivering up and down as if on the very verge of striking a blow, a fiendish grin distorting his countenance. My astonishment lasted but an instant. I quickly perceived that this was the reflection in my spectacles of an enemy behind me, who must have slipped in while I was dozing, and that I was the object of the aim which in another second would have proved fatal. There was not time either to rise or turn, but, flinging myself backward, I seized the savage by his foot and, pulling him forward, happily upset him on his back and closed with him.

"The excitement and breathlessness of the struggle prevented me from calling out, especially as I had at first great difficulty in retaining my hold of my foe, owing to the slipperiness of his greasy skin, but the sand which stuck to him as we rolled over and over together soon enabled me to obtain a better grip. Luckily in our rough and tumble contest we knocked up against one of my hunters, who, although sound asleep till that instant, was on his feet in a twinkling and quickly settled the matter by slipping a cord around the elbows and legs of the man, who was thus secured."

Shelley and Butter Cakes.

Shelley called on Southey one afternoon and found the latter and his wife at tea. Southey evinced such an appetite for buttered cakes that Shelley was shocked and at last broke out with: "Southey, I'm ashamed of you! It's horrible to see a man like you greedily devouring this nasty stuff!" Mrs. Southey came to her husband's defense with a long tirade, during which Shelley, abashed, put down his face and curiously scanned the cakes. He broke off a bit and ventured to taste it. Then he began to eat as greedily as Southey himself. When he went home his verdict on the cakes was summed up in the report of Harriet Westbrook, to whom he was engaged: "We were to have hot tea cakes every evening 'forever.' I was to make them myself and Mrs. Southey was to teach me."

The Great Problem of Tomorrow.

A scientist tells of the energy the earth receives from the sun: "When the sun is nearly overhead he delivers power at the surface of the earth at the rate of more than two horsepower for each square yard of surface. Even after deducting the loss occasioned by the absorption of the earth's atmosphere, it is still true that each square yard receives when the sun is shining the equivalent of one horsepower working continuously. This means there is delivered on each square yard an energy able to lift a weight of 33,000 pounds one foot in one minute, and this power is continuous. On the broad, sunlit plains of Arizona the sun delivers an equivalent of mechanical energy which, expressed in horsepower, would seem almost infinite. A small part of it would suffice for the whole world's work. Why is it not set to doing this work? This is the problem of tomorrow."

To Deliver Cream Sweet.

These are directions of Professor Dean as presented in the Canadian Dairyman: Clean the pails, cans and separator daily or twice daily. Cool cream to 50 degrees by the use of ice or cold water. Have rich cream, testing not less than 25 to 30 per cent fat. Fresh cream should not be added to older cream until after it is cooled to 50 degrees. Proper weighing, measuring and sampling are essential for satisfaction among the patrons. Cream should be pasteurized and cooled at the creamery, especially in the fall and winter, to remove objectionable flavors and to add keeping quality to the butter. Co-operation on the part of the drivers, patrons and creamerymen is necessary in order to improve the quality of the cream and butter.

Ideal Fastening For Cow.

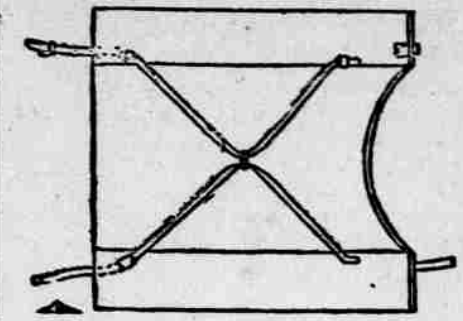
Years ago the old fashioned stanchion was considered the ideal fastening for a cow. Then followed a number of other devices, all calculated to hold the cows securely, but none of them intended to give freedom of movement. Beyond a doubt the ideal fastening for a cow is the one which permits her to move her head in any direction at will, with a fastening sufficiently long so that she may lie down or step around a little. Of course it will not do to give her rope enough so that she will get herself in trouble or get other cows in trouble. Arrange the feed, both the grain and the roughage, so that she can reach it readily, yet not so she can get at and trample it underfoot. Any sort of arrangement which will enable the cow to live in the manner described is ideal, says Denver Field and Farm, whether it is a box stall of black walnut or a fence stall with a steel rope.

Value of Dried Beet Pulp.

The dairy cow ration is always a live subject, and we want to make a suggestion in that direction, says the New England Homestead. We suggest that every dairyman who isn't using dried beet pulp in his ration would do well to investigate this supplementary feed to make sure that he isn't missing something. While dried beet pulp is no new thing as a dairy feed by any means, still it is only recently that its use has become general, and we think it has now thoroughly established itself in this country, the same as it has in Germany, Denmark and other European countries. To fully appreciate why dried beet pulp is such a profitable feed one must realize that in addition to its food value it is a great aid to digestion and assimilation. Its light, succulent "green" character relieves the compaction of the other heavier foods and is a great aid in the mechanical operation of the stomach. Its cooling, soothing effect upon the entire alimentary canal prevents any feverish condition arising, keeps the bowels regular and the animal in a general state of health.

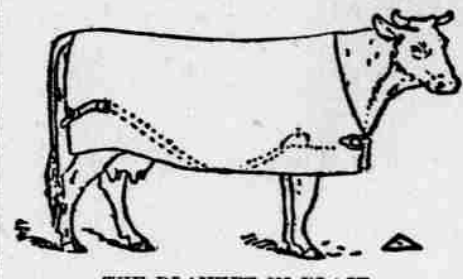


The practice of blanketing cows has become somewhat popular in certain parts of the country. It is found that a cover of this kind in cold weather helps hold bodily heat and prevents cows from sudden shrinkage of milk during cold spells, the cattle being able



COW BLANKET.

to devote their entire attention to the production of milk. Those who have noticed the subject carefully say that the covers make the cows more quiet and contented and that the nervous ones are less troublesome. These rugs are easily made out of old grain bags or similar material. The method of fastening these covers is shown in the



THE BLANKET IN PLACE.

illustrations from the American Cultivator and is superior to the wide girths or straps often used and which are apt to be displaced.

Age Limit of Dairy Cows.

A bulletin from the Wisconsin station states that a cow is at her best during her fifth and sixth years, up to which time the production of milk and butter fat by cows in normal condition increases each year. The length of time the cow will maintain her maximum production depends upon her constitution, strength and the care with which she is fed and managed. A good dairy cow should not show any marked falling off until after ten years of age. Many excellent records have been made by cows older than this.

The quality of the milk produced by heifers is somewhat better than that of older cows, for a decrease has been noted of one-tenth to two-tenths of 1 per cent in the average fat content for each year until the cows have reached the full age. This is caused by the increase in the weight of the cows with advancing age. At any rate, there seems to be a parallelism between the two sets of figures for the same cows. Young animals use a portion of their food for the formation of body tissue, and it is to be expected, therefore, that heifers will require a larger portion of nutrients for the production of milk or butter fat than do other cows. After a certain age has been reached, on the average seven years of age, the food required for the production of a unit of milk or butter fat again increases, both as regards dry matter and the digestible components of the food.

A good milk cow of exceptional strength kept under favorable conditions, whose digestive system has not been impaired by overfeeding or crowding for high results, should continue to be a profitable producer till her twelfth year, although the economy of her production is apt to be somewhat reduced before this age is reached.

Requisites For Calf Feeding.

Always keep the calf pens dry and clean, using plenty of litter. A dirty pen is conducive to scours. For several calves fed together fit up narrow stalls at one side of the pen and fasten each calf by a rope or stanchion to feed each separately. This will prevent the stronger calves from getting more than their share. Keep them fastened or tied for half an hour after eating to prevent their sucking each other's ears. The pails used for feeding milk should be thoroughly cleansed and scalded with boiling water each day.

Value of Dried Beet Pulp.

The dairy cow ration is always a live subject, and we want to make a suggestion in that direction, says the New England Homestead. We suggest that every dairyman who isn't using dried beet pulp in his ration would do well to investigate this supplementary feed to make sure that he isn't missing something. While dried beet pulp is no new thing as a dairy feed by any means, still it is only recently that its use has become general, and we think it has now thoroughly established itself in this country, the same as it has in Germany, Denmark and other European countries. To fully appreciate why dried beet pulp is such a profitable feed one must realize that in addition to its food value it is a great aid to digestion and assimilation. Its light, succulent "green" character relieves the compaction of the other heavier foods and is a great aid in the mechanical operation of the stomach. Its cooling, soothing effect upon the entire alimentary canal prevents any feverish condition arising, keeps the bowels regular and the animal in a general state of health.

THE DAIRY BARN.

Importance of Its Location and Keeping the Cows Clean.

In the production of clean milk no one thing is of more importance than keeping the cows out of the mud. Many yards into which dairy cows are turned each day for their drink and exercise are knee deep with mud and manure during the winter and spring, if not nearly the entire year. In summer when the cows are on pasture they would keep comparatively clean were they not obliged to wade through a filthy yard in going to the stable.

In locating a dairy barn care should be taken to have a gentle slope from the barn in at least one direction, affording good natural drainage for both barn and yard. If the barn is already built and poorly located, drainage and grading will do much to remedy the evil. In most cases it would take but a small amount of labor with plow and scraper, when the ground is in suitable condition to handle, to give the surface of the yard a slope from the barn sufficient to carry off the surface water. Even if dirt has to be hauled in from outside the yard to accomplish this it will not be expensive. The drainage alone under a yard is not sufficient, as the tramping of the cattle soon puddles the surface.

A Good Hard Yard.

After the grading is done the yard should be covered with gravel or cinders. By putting the coarser in the bottom and the finer on top a good hard yard can be obtained and at a comparatively small expense where material of this kind is available. If this cannot all be done in one year it is of the utmost importance that a beginning be made by grading and graveling a portion of the yard next the barn, so that the cows may have some place on which to get out of the mud and filth. By grading a part of the yard each year and applying a thick coat of gravel or cinders to the graded part the entire yard will in a few years be in good condition. When gravel does not contain enough clay to pack hard a small amount of clay should be mixed with the top layer. It will then form a firm surface.

A portion of the yard should be bedded, thus affording the cows a place to lie in the open air on pleasant days. If straw is scarce, the cleanest of the soiled bedding from the stable will answer for this purpose. When the straw and manure on this bedded portion of the yard become too deep and soft they should be hauled into the field and the bedding commenced again on the solid yard.

It is advisable to haul the manure directly to the field from the barn, but if this is not feasible it should be removed at least 100 feet from the barn. In no case, says Professor Fraser of Illinois, should it be allowed to accumulate against or near the dairy barn, and no swine pen should be nearer than 200 feet on account of the odors being readily absorbed by milk.

FEEDING FOR MILK

Corn and cob meal, a little oilmeal and alfalfa hay produce a flow of milk equal to any other ration we know, says Farmers Advocate. Ground oats added in small quantities increase the palatability of the ration without adding greatly to its cost. Corn silage or root crops make valuable additions to any ration.

Must Be Well Fed.

Cows that are capable of producing a large quantity of milk may be ruined by improper feeding. Dairy cows must be well fed and must have the right kind of food or they cannot produce a large flow. Milk is a substance rich in protein, and this cannot be manufactured by the cow from anything that does not contain protein. In other words, the cow cannot produce milk from carbohydrates and fats and must be fed a comparatively narrow ration.

Requisites For Calf Feeding.

Always keep the calf pens dry and clean, using plenty of litter. A dirty pen is conducive to scours. For several calves fed together fit up narrow stalls at one side of the pen and fasten each calf by a rope or stanchion to feed each separately. This will prevent the stronger calves from getting more than their share. Keep them fastened or tied for half an hour after eating to prevent their sucking each other's ears. The pails used for feeding milk should be thoroughly cleansed and scalded with boiling water each day.

Value of Dried Beet Pulp.

The dairy cow ration is always a live subject, and we want to make a suggestion in that direction, says the New England Homestead. We suggest that every dairyman who isn't using dried beet pulp in his ration would do well to investigate this supplementary feed to make sure that he isn't missing something. While dried beet pulp is no new thing as a dairy feed by any means, still it is only recently that its use has become general, and we think it has now thoroughly established itself in this country, the same as it has in Germany, Denmark and other European countries. To fully appreciate why dried beet pulp is such a profitable feed one must realize that in addition to its food value it is a great aid to digestion and assimilation. Its light, succulent "green" character relieves the compaction of the other heavier foods and is a great aid in the mechanical operation of the stomach. Its cooling, soothing effect upon the entire alimentary canal prevents any feverish condition arising, keeps the bowels regular and the animal in a general state of health.