



GRAPES FROM ABROAD.

Some Introductions Intended to Aid Table Grape Culture.

Mr. W. T. Swingle, foreign explorer for the department of agriculture, recently returned from a trip through Mediterranean countries. In a report of results of his work occur the following interesting items:

The fine table and wine grapes of Europe belong to a species (*Vitis vinifera*) less hardy than the American forms from which were derived the varieties now in general cultivation in the eastern United States. But, notwithstanding the great progress made in the improvement of the native fruit, we have as yet nothing approaching in quality or market value the fancy European article.

The great enemy of the European grapes in eastern United States has been the dreaded phylloxera. The French vineyards were ravaged by this scourge some 20 years ago, but a remedy was found in grafting the European vine on selected American sorts, which are almost proof against the attack of this insect. In this way the resistance of the American stock is combined with the high quality of the vinifera grapes. The French viticulturists have found that not only is the injury successfully prevented, but the vines actually yield more than they did before the phylloxera appeared, the American roots proving to be better and more vigorous stocks than the European.

The section of seed and plant introduction has secured 3,000 plants of 119 of the best varieties, all grafted on American stocks especially selected for vigor and disease resisting qualities. The grafted vines are being given a thorough trial in various localities in North Carolina, Florida, Alabama and Kansas, under the direction of the division of pomology, in order to ascertain which varieties are best suited to the local conditions of the different regions. It is confidently hoped that the European grape can be established in many parts of the south and that table grape culture can be greatly extended by the culture of the superior European sorts.

A Fruit Novelty.
The Logan berry resembles a long, large grained red blackberry with a distinct raspberry flavor. The New York station in illustrating it says it has been found too tender for wintering without good protection in that climate.



THE LOGAN BERRY.

mate, and it is not very productive, as the berries grow singly and in loose clusters. In cane growth it resembles the dewberry, requiring support.

The berries, even when fully ripe, have been considered by some to be too acid for any use except cooking. On the other hand, the berry has been highly praised as a fruit of unique flavor, hardy, prolific and bearing transportation well, with the additional advantage that the canes are strong, of low growth and destitute of thorns, so that the hands and clothing are not torn in picking the fruit.

The Logan berry originated some years ago in California and is supposed to be a cross between an improved native California blackberry and the red Antwerp raspberry.

The Day of the Peony is Dawning.

Among other revivals of old favorites the dawn of the peony is announced. A writer in *Gardening* says: "Park commissioners, conservatory superintendents, seedsmen and florists generally are apparently waking up to the importance of this grand old flower. Raising peonies from seeds is the easiest thing imaginable. Gather the seeds from day to day as fast as they ripen, keep from drying and plant in open ground or better, in a frame in the fall; cover well with evergreen boughs or any coarse material, be sure there are no field mice near the beds and you will be surprised to see how regular and even they will come up in the spring. Some keep the seeds in a closed vessel, covered in the ground, over winter and plant in the spring."

Horticultural Briefs.

In all sections loose coverings may be used to advantage for protecting low plants from frost, and damp sandbags may be profitably employed in gardens, orchards and small fields.

Meehan remarks that the only good thing in connection with the annual winter shearing of trees and shrubs, so painfully critical to most parts of the country, is that it furnishes bread to poor men.

The true white ash is an excellent street tree in many sections. The *Lobelia cardinalis*, a cardinal flower, is the most showy of our native plants. Its rich, cardinal red shade is extremely rare in flowers. Though growing naturally in rather wet spots, it takes kindly to cultivation, says Wick.

Those varieties of plums which are denominated as American are natives of this country and, as a rule, are harder than either European or Japanese varieties, says the *Observer*, but they are less suitable than the European varieties.

THE BENEFICENT BEE.

Evidence of Its Great Importance in Fruit Growing.

Mr. Frank Benton, the bee expert at Washington, has cited for *The Rural New Yorker* the following data in regard to the actual amount of practical benefit in increased fruit and seed production by keeping bees:

In "Langstroth on the Honeybee" it is stated that "a large fruit grower told us that his cherries were a very uncertain crop, a cold northeast storm frequently prevailing when they were in blossom. He had noticed that if the sun shone out for a couple of hours the bees secured him a crop."

Root says: "A few years ago the people in some parts of Massachusetts got an idea that the bees, which were kept there in large numbers, were prejudicial to the fruit. After some controversy, the bees were banished from the town. In a year or two they found the fruit not only no better, but decidedly the reverse, for the trees blossomed profusely, but bore no crops. By a unanimous request our friend was persuaded to return with his bees, and since then the trees have not only blossomed, but borne fruit in profusion."

Mr. T. W. Cowan, editor of the *British Bee Journal*, has recently said: "It is useless increasing the area under fruit cultivation without at the same time increasing the number of bees kept. As an instance I would mention Lord Sudeley's fruit plantation in England, about 200 acres of fruit trees were first planted, and for several years there was such poor success that it was a question whether the enterprise should not be abandoned. Lord Sudeley was, however, advised to introduce bees, as it was found that not many were kept in that district. Two hundred colonies, in charge of a practical beekeeper, were introduced, and the result was magical. Thereafter the trees bore fruit properly, and the former failure was turned into a success. Since then 500 acres have been planted with fruit trees, and a large jam factory has been started close by, both undertakings being in a prosperous condition."

The following case also adds weight: for several years the cherry crop of Yuba valley, California, had not been good, although it was formerly quite sure. The partial or complete failures had been attributed to north winds, etc., but in the minds of the owners these causes did not sufficiently account for all the cases of failure. It was remembered that formerly, when cherry crops were good, wild bees were very plentiful in the valley, and hence it was thought that perhaps the lack of fruit since most of the bees had disappeared might have been due to imperfect distribution of the pollen. To test the matter several hives of bees were placed in an orchard in 1890. The result was striking, for the orchard bore a good crop of cherries, while other growers in the valley who had no bees found their crops entire or partial failures. In 1891 orchard had 25 hives of bees in it, and the owner wrote: "Our crop was good this season, and we attribute it to the bees. Since we have been keeping our bees our cherry crop has been much larger than formerly, while those orchards nearest us, five miles from here, where no bees are kept, have produced light crops."

Changes in Eastern Farming.

Without much question the growing of any grain crop, at least for the value of the grain itself, has long ceased to be profitable in any of the eastern states and to a great extent in the states west of Lake Erie. There are good reasons why corn should be grown for the value of its fodder as food for cows. The small grains may also continue to be sown as an auxiliary crop which will produce a revenue, but usually the small grain is grown to be fed on the farm, as this use of it with good stock pays better than selling it at the market price. Grain for sale as a source of revenue has had its day in all the older sections of the country. What shall take its place that will be equally reliable and more profitable? Diversions of the farm from grain and grass to fruits of all kinds is the most widely popular answer to this question, though near cities and large villages the keeping of cows and the selling of milk and the growing of vegetables of all kinds for market nearly or quite equal it in popularity. The difficulty with market gardening is that it requires much richer land and much more labor per acre than the old fashioned methods of farming. This involves a much greater expenditure of money on less land. The reduction of large landed properties and their subdivision into many small farms are pretty certain to be the popular policy within a few years. Most of the farmers who till 50 to 100 or more acres would make more money if half the capital now invested in land were devoted to tilling in the best manner from two to ten acres, using part of it in the building of greenhouses and growing fruits and vegetables under glass. —*American Cultivator.*

Leguminous Fodder Plants.

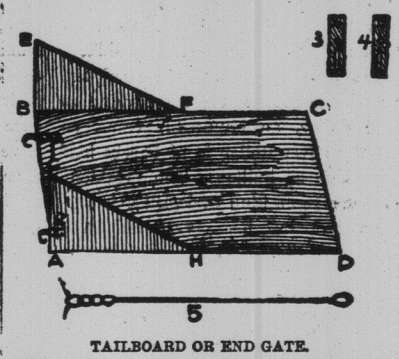
Leguminous fodder plants are of vast importance to those farmers who would adopt scientific methods. They are the cheapest sources of crude protein. Other crops, in order to manufacture crude protein, must be the full equivalent of inorganic nitrates present in the soil. These plants alone can draw nitrogen from the air as well as from the soil. By the use of leguminous crops the farmer may produce upon his own land fodders which approach in feeding value the various meals and oilcakes and at the same time be growing a fertilizer crop that will supplant the expensive nitrogenous fertilizers, guano, bone, fish scrap and animal wastes that otherwise must be purchased.



FARM CONVENIENCES.

Wagon Gate Useful in Husking Time. Crates For Roots, Apples, Etc.

A sketch of a very convenient tailboard end gate, which can be attached to any wagon bed and which saves much time and labor in unloading corn or coal, is sent to the *Ohio Farmer* by a correspondent, who says: "The size of wagon beds varies so much that it is useless to give dimensions, but make the part A B C D long enough to extend at least six inches above the sideboards of the wagon and



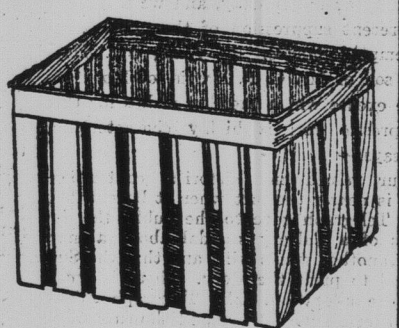
TAILBOARD END GATE.

also wide enough so that the wings B E F and A G H will be on the outside of the bed when the end gate is up. Have two hooks made as at 1 and 2 and bolt to the end gate with the hook turned down. Then have made out of old wagon tire rods, 3 and 4, each about six inches long, with slots about two inches long and large enough to admit hooks 1 and 2. Bolt these plates to the under side of the wagon bed, with the slots extending out far enough from the bed to admit the hooks. This makes your hinge for the end gate so that it can be removed from the bed instantly.

"Now attach two rods or chains, as at Fig. 5, at C D and let them pass through rings fastened at the top end of the bed. This holds the end gate up, so that one may stand on it and begin to unload. Have two rings, one on each side of the bed, fastened the length of the chains or rods from the end of the bed to hold the end gate up while the load is being hauled.

"Further attention is called to the journal already mentioned to the crate shown in the second cut by a writer who describes it thus: As can be seen, all the slats composing it are upright, obviating thereby the use of corner supports, for, as put together, the slats lap at the corners and, being well nailed, afford great firmness to the whole affair. This is of decided convenience in that the crate is indispensable for dry goods boxes and the like, simply with saw and hammer, some nails and some leather straps for handles, one on each side.

"The shape of this crate, remember, should be rectangular, for then if one wishes to load a number of them into a wagon box it can be done with perfect ease. Indeed, if put to use in this manner, the crate is indispensable for harvesting apples, potatoes, turnips, carrots, beets, and so on. By making up enough of them, which can be done on rainy days, to fill a wagon box load of such depending crops and fruit can be taken from the field with a single handling, which not only saves much time, but lessens the danger of bruises, and in case of fruits, like apples and pears, this is an item of the gravest importance.



CRATE FOR POTATOES, TURNIPS, ETC.

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New England Likes Rape For Pasture.

The sowing of rape as a pasture for sheep and hogs seems likely to work a revolution in farming in many sections. So far as we have seen reports of its use, says *American Cultivator*, all parties seem to be much pleased with the results, and it seems to be as good as clover or alfalfa for pasturing, besides being more easily and quickly grown. The cost of the seed is small, being but about 10 cents a pound at wholesale, and but 2 1/2 pounds are required for an acre. Not only will this food be valuable of itself, but, being a substitute for clover pasture, it will cause more clover to be cut and cured for hay, which will increase the ability of any farms for dairy production and also for the raising of young stock. We believe clover or alfalfa, which is of the clover species, as green feed or as hay is the best feed for those purposes, and in New England it is too valuable to be used as a pasture for hogs. The care necessary in turning sheep or young stock on rape to prevent bloating is not much greater than is required when turning them into a clover field. Rape always has been found a cheap and desirable green feed for fowls that are confined to yards.

TURKEY CULTURE.

Facts Drawn From the Experiences of English and American Growers.

Large birds realize more per pound in proportion than the small ones. The male must be taken care to not let the meat too sticky or too dry, but just so that it clings together nicely.

No stock pays better for proper feeding and a little extra care than young turkeys, says W. Cook in *Poultry*. Those birds which are intended for killing at Christmas should have a hot meal before they are allowed out in the morning.

Turkeys will drink occasionally during incubation, but usually decline much food, and consequently come out of hatching time rather poor and then need hearty food.

After turkeys are about 8 weeks old they do better if allowed to sleep out in the open, with no covering over them, than if put in a warm close house.

What in the feathered creation is more magnificent than a fine flock of turkeys, whether displaying their gorgeous coloring in the sun or strutting through woods and fields in quest of food.

Turkeys like to roost as high as possible in the house. Therefore the perches should be on a level to prevent them from breathing foul air, as they are more subject to roup and cold than any other fowls.

It should always be borne in mind that unless the stock birds are large it is impossible to get the young ones to a good weight. Therefore it is best to purchase the largest and finest stock obtainable to breed from.

Many farmers allow their young turkeys to run in the stubble fields, which is a good plan, as they not only pick up a great deal of loose corn, but often get rid of weeds and grass, besides which they have plenty of fresh air and exercise.

Let no novice in this business suppose he can succeed without great care and prudence. Young turkeys are the most tender of all young fowls and need the most care. This care commences with a good selection of the finest, earliest and heaviest turkey for breeders.

Old men wives assure us that, as geese regulate the commencement of their laying by the feast of Candlemas, so turkeys always lay their first eggs on Good Friday, regardless of the mobility of the fast. But it is generally found that they begin to lay from March 15 to the end of the month.—*A Few Hens.*

Mismanagement.

It is a matter of mismanagement that some farmers and poultry men "keep over" season after season, a lot of worse than useless fowls that are inferior in every respect, fowls that have outgrown all possible usefulness. This practice may be considered, on general principles, to exist commonly "among the people." It is unfortunate, inasmuch as it is responsible for a great deal of the dissatisfaction among beginners and those inexperienced. It is more than probable, too, that a large share of the chicks that come from the eggs of these greatly inferior fowls, as their breeding tendencies are generally quite well developed. It is quite obvious, therefore, that the account of this class of poultry is obliterated from the face of the earth the better. There is no better time to commence cutting them out than right now. Either eat them yourself or send them to market. In this latter event it may be as well to fatten them a little if they are not already too fat. Shut them up in small coops and place in a darkened room. Feed them cornmeal, mash and cooked kitchen scraps in the morning, all they will eat up clean, and corn, wheat or buckwheat at noon and night. Avoid giving them onions in any great quantity or anything of a sour or stale nature, as it is liable to taint the flesh. Keep their coops in good sanitary condition, and in a very short time they should be in a good marketable condition. Put them through this process and then sell them for just what they will bring. Endeavor to improve your flock in every possible way. Introduce new and better blood occasionally. Make up a breeding pen from the best birds and breed these exclusively. To allow your flock in any way to deteriorate is to invite inevitable loss and failure.—*Indiana Farmer.*

Overfed Ducks in a Bad Way.

A correspondent writes *Farm Poultry*: "I have looked over all my *Farm Poultry*, but have found no disease resembling the one which has befallen my ducks. Being a beginner in the duck business, I will have to ask your advice."

"The ducks were about 3 months old when three of them came home and lay down on their stomachs and began to quack as if in great agony. When I tried to drive them up, I found they could not walk, and in a few hours they began to gas, and a white film formed in their throats. The next morning they were dead and another one sick. I examined him and found that his whole body was covered with small maggots and I immediately killed him and cooked him up for my family. I found that the maggots were from the ground, but no maggots on him. I immediately gave him castor oil and pepper and he is still alive and seems to be recovering. They have plenty of grit and are fed mostly on cooked meats and cornmeal and have plenty of water. They ate an unusual amount of meat the day before they took sick. They are very fat."

Whereupon the editor remarks: "We would think they would be fat, and nothing but fat. You are simply stuffing them to death. Put one-half bran (oats) in their ration and a fourth green food. The maggots were probably bred to the one duck, and the concentrated ration caused the trouble."

MILK FEVER.

New Treatment Explained by State Veterinarian Pearson, of Pennsylvania.

Dr. Leonard Pearson, state veterinarian of Pennsylvania, in an article on milk fever and its treatment, says: "Two years ago a Danish veterinarian suggested that milk fever may be a poisoning of the animal due to the absorption from the udder of abnormal substances produced there under certain conditions. It is known that by the fermentation of certain organic substances poisonous compounds, known as ptomaines, may be produced. These sometimes develop in sausage, cheese, ice cream, preserved meat, etc., and in such cases produce illness when eaten. Such poisonous substances are the product of bacterial action. It has

been shown recently by Dr. V. A. Moore that bacteria may be found even in the deep parts of many udders. It is not impossible, therefore, that poison producing fermentations may occur in the colostrum and that the animal may be poisoned by the absorption of this material from the udder.

"If we accept this as a working theory, does it explain the known facts in regard to milk fever, and does it harmonize with all of them? If injurious bacteria enter the teat, they will have greater opportunities to become distributed by the prolonged manipulation and through the wide passages of the productive udder of the rich milker than through the unmanipulated udder of the heifer or the more confined passages of the poor milker. After distribution also they will find more work in the udder of the rich milker than in that of the poor one. If the cow is kept milked out prior to calving, there will be little opportunity for any injurious substance to accumulate in harmful quantity.

"The conditions that tend to prevent milk fever are the conditions that tend to repress the activity of the udder, as bleeding, purging and low feeding. That high condition without an active udder does not predispose to milk fever is shown by the fact that this disease is so rare among *Hereford*, *Galloway* and *Angus* cattle, although the cows of these breeds are usually in higher condition than *Jerseys* or *Guernseys* when they calve. It appears, therefore, that there is some force in this new theory, and it remains to determine whether a plan of treatment based upon it will give better results than have heretofore been obtained. Milk fever has always been looked upon as a very fatal disease, and in different places and different seasons the mortality has ranged from 50 to 90 per cent.

"If milk fever is produced by the absorption of a poison developed in the udder, the injurious material in the udder should be removed or neutralized as soon as possible. Frequent milking process and the sell them for just what they will bring. Endeavor to improve your flock in every possible way. Introduce new and better blood occasionally. Make up a breeding pen from the best birds and breed these exclusively. To allow your flock in any way to deteriorate is to invite inevitable loss and failure.—*Indiana Farmer.*

Get the Buttermilk Out.

Butter will not keep if the buttermilk is not carefully taken out.

Warm Cream and Slow Motion.

If the cream is too warm, the butter will be slow to come.

DAIRY FEEDING.

How Much Land Is Needed to Keep a Milk Cow?

With good, rich land kept always in grass, two, three and even four acres will be needed to winter and summer a cow, says *The American Cultivator*. Where the land is rocky or poor it may require five acres to a cow, besides buying some grain or meal as extra feed in winter. It is always true economy to purchase bran, wheat middlings or grain meal to feed to cows that have a hay diet in winter. It makes the hay go further, and whenever a farmer makes close calculations he finds that for milk production at least hay is the most expensive feed he can purchase. Among the cheapest of all cow feeds are linseed and cottonseed meal, though neither can be fed in large amounts nor without being mixed with chopped hay or straw, to give more bulk with the same nutrition. Even corn and oats should be ground and mixed with cut hay or straw to get the best results from feeding them. If the whole mess is well steamed and a little salt added, it makes the cow eat it with avidity, and the moisture from steaming the food greatly stimulates the secretion of milk.

With the introduction of the silo to keep green cornstalks in excellent condition for winter feed there came a revolution in the feeding of cows. It enormously increased the amount of fodder that could be produced on an acre. Instead of taking two, three or four acres or more to keep a cow through the year, as with grass, a cow might be kept on an acre or perhaps three cows on two acres if some winter crop can be grown, like rye, to be cut and fed in the spring just before the grain begins to head out. Fifteen, 20 or more tons of corn fodder can be grown per acre if the corn is fed green. Twenty and even 25 tons of large southern corn can be grown per acre, which, made into ensilage, would make a daily ration of 100 pounds or more of ensilage per day for 365 days in the year. This is more than any cow should or could eat.

Fifty pounds of ensilage per day is, except for short periods, all that can be profitably fed to cows giving milk. The remainder of the feed required for the maintenance of the cow should be dry hay, clover, if possible, and some bought grains. Though these require the expenditure of money from the farm, they pay better than trying to grow on the farm everything that has to be fed, as used to be the motto with old fashioned farmers. It is only since eastern farmers learned to supplement their home grown rations with cheap western grain that they have been able to produce milk and butter as cheaply as the west.

Feeding succulent food instead of dry hay and dried corn fodder in winter has greatly helped to develop the milking capacities of our leading dairy breeds. All of these originated in mild and moist climates, where succulent and nutritious food is plentiful at all seasons. The Channel Island cows, the *Friesian-Holstein* and also the *Ayrshire* cattle originated not far from salt water, which is deep enough to keep open in winter. In an arid country the best milk producing breeds rapidly deteriorate in dairy qualities. Where there are plenty of springs of water, so as to keep the air moist, the milk producing breeds can be most profitably produced, because, other things being equal, they can be bred to produce more milk and butter in each succeeding generation than in the one which preceded it.

Dairymen Get Their Innings.

Dairymen need not much longer cast covetous glances at the receipts of their neighbors who make meat, says *The Breeder's Gazette*. All things come to him who waits, and the swing of the pendulum toward active trade and higher prices is carrying along with it all phases of farming. Milkmen were caught rather late in this current, but none the less surely. Butter has been advancing the past few weeks at a rate and with a strength that have surprised a number of those who keep well posted on this trade. It is the same old story—burning the candle at both ends. That is to say, it is a case of diminished supply and increased demand. When these two factors enter fairly into a problem, "fireworks" generally result. A few "guzzes" have already been burnt in the butter market, and more pyrotechnics are apt to follow. A prolonged drought during the late summer, even worse than is ordinarily characteristic of this period, occasioned a material diminution in the make, while the demand on both domestic and foreign account has been steadily growing. Statistically there is a world short age on butter, and when the increased domestic consumption is considered in connection with this fact it may safely be concluded that we have not yet seen the end of the advance.

Preservation Without Chemicals.

In a bulletin of the West Virginia Experiment station Mr. Rite describes a series of experiments which he made for the preservation of milk with a pressure of from 5 to 30 tons per square inch. At the end of five days some of the samples were perfectly sweet, but in no case were the injurious bacteria killed, and, on the whole, the experiment can hardly be regarded as a success. Great difficulty was experienced in procuring cylinders sufficiently strong to withstand the great pressure. In some cases low or moderate pressure for several days was tried.

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