FARM AND GARDEN.

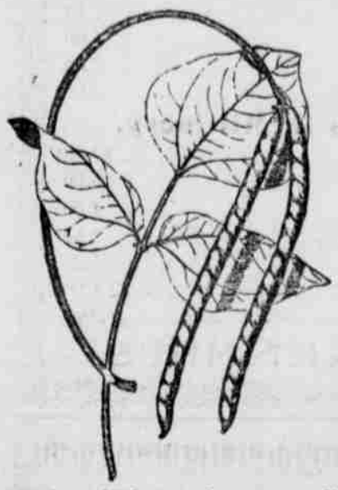
MATTERS OF INTEREST TO AGRICULTURISTS.

Some Up-to-Date Hints About Cultivation of the Soil and Yields Thereof—Horticulture, Viticulture and Floriculture.

The Cow Pea.

Herewith we illustrate the cow-pea. As will be seen, it is more of a bean than a pea. Bulletin 102 of the U. S. Department of Agriculture says of it: The cow-pea has been cultivated in the South for at least 150 years. It was probably first introduced on plantations in South Carolina, the seeds having been brought from India or China. From this original introduction and from subsequent importations its cultivation has spread to almost every farm and plantation in the southern states. Cow-peas are, in their relationship and habit of growth, really beans and not peas as the name indicates. They are annuals and are closely related to the lablab, lima and haricot beans of our gardens.

Varieties.—Cow-peas occur in every gradation of habit, from a compact, stocky upright bush having stems a foot high with very short lateral branches to those with trailing runners growing as flat upon the ground as sweet potato or melon vines, the prostrate stems 15 to 20 feet in length. The pods vary from 4 to 16 inches in length, and the peas are of every imaginable shade of white, yellow, green, pink, gray, brown, red, purple and black, of solid colors or variously mottled and speckled, and of varying sizes and forms, from large kidney-



shaped to little round ones smaller than the garden pea. There is a like variation in the length of time the different forms require to ripen seed, some requiring eight or nine months, a few ripening in 60 days from the time of planting.

Horticultural Observations.

Massachusetts has again this year appropriated $200,000 for the extermination of the gypsy moth. This makes over half a million dollars that have been so expended. It should point a moral, and that is that there ought to be a branch of the general government whose duty it is to keep out injurious insects. The proper officers, armed with authority, could not only in many instances prevent the introduction of insect pests, but they could attack and destroy the pests that did get a foothold before they could spread.

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California has profited greatly by the short crop of peaches this year in all of the states east of the Rocky mountains where peaches are grown. Even the merchants of Georgia have been buying California peaches by the carload and selling them at a good price to local consumers. This can but stimulate the planting of peach orchards in California and we look to see great activity in that state the coming season. New orchards will doubtless go in by the thousands of acres. On the other hand the growers of peaches in the states where the crop was this year a failure seem not to be discouraged and promise to put in large areas of new trees. The high prices of this year seem to have more effect than the failure of the crop. As a consequence in a few years we may expect to see the supply of peaches enormously increased.

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It is reported from France that the Lombardy poplars, which have so long been a decoration of roads in that country, are being cut away and their places taken by plum trees. The process of supplanting the poplars by the fruit trees has been going on for several years, and it is said that already the fruit from some of the plum trees is being sold for the benefit of the districts through which the roads pass. It seems that the public does not hesitate in those countries to derive all the revenue possible from sales of fruit even though it does come into competition with the private producers of fruit. In Belgium it is said that this revenue amounts to over $2,000,000 per year. The planting of fruit trees by the roadside is not a thing to be encouraged unless the fruit is to be carefully looked after and be the property either of the government or of the man on the side of whose land it is. Fruit trees left to take care of themselves soon become objects that are anything but adornments to the highways.

Penn's Woods.

Pennsylvania has taken a highly commendable stand on the forest preservation question. Investigation has shown that the water supply of the state will be endangered unless suitable protection is afforded to the forest land situated at the head waters of the state's streams. The immediate connection between water supply of streams and forest preservation is becoming realized at home by even Eastern people where irrigation is not necessary. Governor Stone has determined to make forest protection one of the features of his administration. He has appointed a commission to select and locate three state forest reservations, aggregating 120,000 acres, at the head waters of rivers of the state. The State Board of Property has unanimously declared in favor of obtaining these lands as natural reservoirs, declaring that the control of them is Pennsylvania's one hope of preserving her agricultural and farming interests as well as water supply.

Reduction in Cattle Receipts.

The Drovers Journal has gathered from official sources the combined receipts of cattle at Chicago, Kansas City, St. Louis and Omaha for the last eight years, and gives them as follows:

Years.	Number of Cattle Marketed.
1892	6,459,270
1893	6,403,154
1894	6,156,384
1895	5,537,691
1896	5,677,830
1897	5,985,817
1898	5,846,716

So far the runs of 1899 do not vary very much from those of 1898. With the unprecedentedly large demand for beef at home and abroad considered in connection with the above figures it would be strange indeed if cattle were worth no more on the market than during the preceding years.

Wasted Corn Fodder.

Each year, as the seasons come and go, we note the major portion of the country's corn crop is allowed to stand until the "cold chilly winds of November" have blown hundreds of tons of the very best of our corn plant away.

And yet many farmers who suffer this practice on their farms find their young cattle, cows and horses sorely in need of just such feed as they have willingly allowed to go to waste, says W. D. Wode in Rural World. In the corn belt of the Mississippi valley there is enough corn fodder allowed to go to the waste places to winter well three times as many cattle and sheep as are maintained within this territory. It's true this crop cannot be properly saved without some labor and expense, but with the modern corn harvester, which cuts and binds in convenient form this valuable crop, no reasonable excuse can be offered for allowing it to be carried to the fence corners and ditches by the fall winds. Let us note these things in time this year.

When to Plow Stubble Ground.

Stubble ground should unquestionably be plowed while the moisture is still in the soil. Experiments of the station show that simple plowing is quite as effective for moisture conservation as any tillage yet tested. If time does not permit plowing the speedy work of the disk harrow compares favorably in efficiency. In either case, if rain follows sufficient to start the weeds, kill them with a harrow. This will at the same time break up any crust and preserve the soil mulch. This treatment not only insures a perfect seed bed for wheat in respect to moisture, but the soil has time to settle to the firm conditions so advantageous to wheat, and the bareness, warmth and moisture are most favorable to the formation of nitrates from organic matter. Nitrates are highly important for successful wheat production.—Bulletin Kansas Experiment Station.

Forest Fires.—Of all the foes which attack the woodlands of North America no other is so terrible as fire. Forest fires spring from many different causes. They are often kindled along railroads by sparks from the locomotives. Carelessness is responsible for many fires. Settlers and farmers clearing land or burning grass and brush often allow the fire to escape into the woods. Some one may drop a half-burned match or the glowing tobacco of a pipe or cigar, or a hunter or prospector may neglect to extinguish his camp fire, or may build it where it will burrow into the thick duff far beyond his reach, to smolder for days, or weeks, and perhaps to break out as a destructive fire long after he is gone. Many fires are set for malice or revenge, and the forest is often burned over by huckleberry pickers to increase the next season's growth of berries, or by the owners of cattle or sheep to make better pasture for their herds.

Argentine Horses in England.—England receives from the Argentine a number of horses, varying from 500 to over 1,000 per annum, says the Stock Breeders' Magazine. These include bus horses, bred from Clydesdales, and other heavy-draught breeds, light shaft horses, and hacks. Some Argentine polo ponies sold well in England last year. They were pronounced quick in starting and turning, but wanting in pace. Exporters do not seem to find much business in the remission of horses to England. They complain that they have to pay as much in Argentina for a really good horse as the price he will fetch at home, and that a string of general animals will scarcely sell for more than the cost of their freight and fodder.

Angora Wool.—Many letters regarding Angora goats ask the price of wool. The clip from our Angoras at Clover Crest brought 34 cents for the best grades and 20 cents for two or three of the coarsest. The best price was received for the long and fine fleeces. In one fleece the mohair was eighteen inches long and weighed nine pounds. The coarsest fleeces are the lightest.

Cut straw is good filling for the hen's nest.

Making Edam Cheese.

Hollanders have long been known as careful cheese makers, and Edam cheese is a Holland specialty. The northern part of the little country is the seat of the Edam cheese industry and great cleanliness and care is exercised in the making. The cheese is made from fresh cow's milk. As soon as curdled by the rennet, the whey is drawn off and the curd kneaded and pressed into the ball-like molds until quite dry. The ball is then wrapped in a linen cloth and kept for ten days or two weeks until quite solid, when the cloth is removed and the cheese put into salt lye. It is next put into a vessel and washed with whey and scraped to remove the white crust of salt. It is next carried into a cool room and laid on shelves, where it is turned regularly. Ripening Edam cheese takes from two to three months, the round balls assuming their fine yellow or reddish color. Those cheeses intended for export to this country are often more highly colored by vegetable dyes.

Among some of the commission men in Chicago it is believed that the poultry crop of this year is about the same as that of the past year. There is believed to be considerable increase of turkeys, while chickens remain about the same. Ducks and geese are less in numbers. The cold and wet spring is given as the general cause of a not more abundant supply. The supply of turkeys is put at possibly 25 per cent more than last year. The cause for this is doubtless the good prices that have been realized for a few years past for good turkeys. There has been no kind of poultry that has brought the farmer more satisfactory returns. But this condition in former years was brought about by a shortage. Perhaps we may expect to see turkeys moderate in price this season when they really begin to come in. Chickens are not a large crop for the same reason, that is, the moderate prices that have prevailed for some time. The state of the market of past years was the incentive for the change in kind of fowls being prepared for market. The same is true of the shortage in ducks and geese. In fact we may expect to see these changes go on from year to year. The wise course among poultrymen would seem to be to change less and catch the high market oftener.

Sheep Killed by Porcupine Grass.

We are hearing many complaints of the loss of sheep by injuries from that very injurious grass known as porcupine grass, also called Stipa Spartee by botanists, says American Sheep Breeder. It is found from Illinois and Indiana, and northwest into the Canadian territories. It is most noted for its feathery head made up of long awns which are twisted as a corkscrew, and covered with short plumy fibers, making it much like a feather. The sheep, feeding among this grass when the heads are about ripe, take up in their fleece many of these awns, which are easily loosened from the head. These awns entangled in the wool untwist in the wet or damp weather, or even in a dewy night, but in the warm dry days they twist again; in this manner they force the sharp points of the awns into the flesh and every exposure to alternate dampness and dryness forces the barbed awns deeper and deeper into the flesh, so that in time the sheep are absolutely transfixed by these sharp screws like needles. The result is that the sheep become affected in the same way as by serious disorders of the stomach and bowels, but of course no treatment suggested by this belief has any effect in relieving them. There have been so many instances of this kind the past month, and so many every year later in the season, that attention is called to this injurious grass so that all concerned may take suitable precautions. It is difficult to suggest any practical means to get rid of this grass, as it is perennial, and plowing and cultivating of the land only will eradicate it. Doubtless the most satisfactory means will be to watch the sheep and gather from the fleece all the awns which have been taken up by the wool, or keep the flocks from pastures on which this grass grows.

Sheep Feed Short in England.—According to the Mark Lane Express the sheep breeders on the English farms have raised but small supply of feed stuffs. The renters have made but little and their landlords are themselves too poor to give assistance to their tenants. Farm labor is so high as to absorb profits. The turnip crop, so important a sheep feed in that country, has been cut short by drouth, pasturage is poor, and in many cases water supply is defective. As a result the farmers, or many of them, will be unable to properly winter their flocks, and the deficiency in feed and water supply, the Express thinks will cause a heavy falling off in the lamb crop.

Burning Up the Cow.—There must be a reasonable limit, however, in feeding fat-forming feed. Prof. Otis very truly says a true dairy cow, fed on a ration rich in protein and light in carbohydrates, will continue to develop for years, both in ability to consume feed and to yield milk, and properly handled does not reach her highest yield until eight or ten years old, and is then good for from five to eight more years of profitable work. A cow heavily fed on a ration of average composition, greatly deficient in protein and high in carbohydrates, does burn out and will not last long.—Delaware Dairyman.

Reports from Boston indicate that the renovated butter law passed at the last session of the Massachusetts legislature is a dead letter. The process butter is being sold freely there without any marking to distinguish it from first-class butter.

DAIRY AND POULTRY.

INTERESTING CHAPTERS FOR OUR RURAL READERS.

How Succesful Farmers Operate This Department of the Farm—A Few Hints as to the Care of Live Stock and Poultry.

Dairy Notes.

Fresh French butter seems to be losing its place in the English market, according to a report from Paris. In 1876 the value of all butter exported from France was about $20,000,000. In 1888 the amount had dropped to about $17,000,000, of which about $14,000,000 worth was salted butter. That left about $3,000,000 worth as the value of fresh butter exported. In the year 1898 the entire value of fresh butter exported from France was only about $1,500,000.

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The board of health of Rochester, N. Y., has taken up the investigation of milk for bacteria. Perhaps the board understands what it is trying to do, but other people are still waiting for information. They have passed a rule making 100,000 bacteria per cubic centimeter the limit in salable milk. So far as we know the rule does not name the bacteria, but includes all alike. It is presumed that the desirable ferments are objected to as much as those that are undesirable, so far as this rule goes. We do not care to criticise till we know the whole intent of this regulation. But at this distance it seems like a very doubtful expedient. A very dangerous milk might contain only a few thousand bacteria, but they might be of a very harmful sort. Would that kind of milk pass the inspector? On the other hand, it may be possible that a new and valuable idea is being worked out and that we are entering on an era of greater certainty as to the real composition and contents of the product that is sold to us as pure milk.

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Reports from the Minnesota State Fair say that the scoring of butter was made especially valuable to the creamery butter-makers this year. After the butter had been judged and prizes awarded the competing butter exhibitors were permitted to go into the exhibit room and rescore the butter for their own information and instruction. Many of them availed themselves of the privilege. It is doubtless true that many of our butter exhibits fail in their purpose for the reason that those that are beaten in the competition have no way of ascertaining by actual comparison of the butters the standard to which each should work. It is barely possible that some expert judges of exhibition butter do not like the idea, as it may expose them to criticism. If a beaten exhibitor does not have a chance to taste all the butters he has little ground on which to impeach the correctness of the judges, but as soon as he is permitted with others to go over the ground it is possible for him to make vigorous objections if he thinks himself aggrieved. In most cases these criticisms are unjust, but in the interest of advancement they should be accepted by the judges.

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We wish to commend the good work that is being done by the Illinois Dairy Union. It has been prosecuting the men, or some of them, who have been selling oleomargarine for butter. It finds legal difficulties that it is not easy to surmount. It has now started a movement to have all Illinois butter sold under a trade-mark. Any infringement of the trade-mark will be more easily prosecuted than the mere violation of the oleo laws. The Dairy Union is now furnishing a protected label, which reads as follows:

"Contents of this package guaranteed pure butter. The Illinois Dairy Union, which furnishes this label for use with pure butter only, will cheerfully pay $10 reward for information leading to the detection of any person or firm using it with oleomargarine or adulterated butter. This label is furnished free to all retailers that handle pure butter made from unadulterated milk or cream, no matter from whom purchased, to afford them a convenient method for guaranteeing the purity of such goods, and thus distinguish between pure butter and the enormous quantities of the counterfeit article of a cheap character being fraudulently palmed off as butter. In the interest of honest dealing and the purity of our foods, we earnestly request that you insist upon this guaranty with every purchase of butter. If doubtful of the purity of your butter, write to the undersigned to send you mailable box to return sample in to test free.—Chas. Y. Knight, Secretary, 188 South Water street, Chicago."

On Fattening Turkeys.

From the Farmers' Review:—While this will be too late for use for this Thanksgiving market, the hints given may be used for the Xmas and New Year's market. To begin with our turkeys are not standard bred, but are nice large turkeys of the bronze type. The hens were three years old last spring, the gobbler was a young turkey, decidedly no relation, the eggs all hatched, and the turkeys were healthy from the start and have not been stinted on account of lice, disease or lack of food. They have had free range since they became large enough to fly over a fifteen-inch board.

They were fed bread made of two-thirds corn meal, one-third wheat bran, mixed with milk, salt and soda to taste, added, the whole baked until done; this with milk curds was their feed for the first seven weeks, after that we fed crushed or cracked corn as an evening feed for three or four weeks longer, then all cracked corn for a week or two, then whole corn. It is hard to change the turkey's diet, one must gradually go from one feed to another with them, hence this tapering off. They of course had clean water at all times, milk occasionally, crushed charcoal and grit, but no medicine unless a portion of unleached wood ashes added to their drink could be called medicine. This was put in their drink whenever we noticed one a "little off," and was left in a day or two. Since we've begun feeding whole corn they have had all they would pick up twice per day, before that I should have said, they were never fed quite all they would eat, the idea being to never allow them to lose their appetite which they will do when small on any food we ever tried except milk curds, and of this we never had enough.

We have gobblers now that weigh sixteen pounds and less than six months old. One that we selected as a test case to tell what they were doing with the feed, has gained one pound each week for the last four weeks, and as far as one can judge, he has not gained faster than the others. The last week or ten days before marketing we intend to feed warm corn and meal mash for their breakfast, at least. We think they will increase faster in weight if thus fed, the meal will be mixed crumbly, not soft and mushy. One can feed all the turkeys will pick up, indeed they will go off and leave feed, and in ten minutes go among them and scatter more corn and they will eat as though they had had nothing for quite a while, for a little bit, but soon they will leave. If one had nothing to do but walk among them and scatter corn there is no guessing at what they would gain in a few weeks.

We have never tried confining the turks to fatten them, but do not think it would work. If we ever can, we want to be able to have a five or ten acre plat, preferably meadow, exclusively to fatten our turkeys, and in this plat we would have corn scattered thinly over the ground all the time. This might not prove out well but we would like to give it a trial. Turkeys are lots of bother, they are a trial from the time the hens begin to lay until the young are marketed, but they bring in more money in comparison with the feed consumed than any thing in the poultry line, and turkey raisers are always eager to begin the campaign every spring.

EMMA CLEARWATER.

American vs. Canadian Horses.

It seems that a well-known British horse buyer, Mr. Dollar by name, in the course of an after-dinner speech at Toronto lately, took occasion to say, "that the Canadian horses are tougher and better wearers than the Americans. The latter suffer much from splints and from lameness, and if they wear on a few years are apt to become sluggish." We wonder what would have been the effects of an American dinner upon Mr. Dollar! Possibly he would have said that the Canadian horses are too small as a rule and perhaps too lively and liable to run away! It is news to learn that our horses have any special liability to throw out splints unless it be that foreign buyers purchase immature horses and work them too hard upon granite pavements. Just recently we published the fact that European buyers prized American horses on account of their wearing qualities as compared with their own horses, and certainly the remarkable demand for our horses at the Union Stock Yards, Chicago, goes to show that they must stand the test of wear and tear abroad. The experience of the writer in the daily examination of country horses is that they are remarkably sound and free from lameness, but then it depends a good deal through what eyes a horse is seen, and possibly, too, after which dinner one speaks. It is kind of mean, you know, to look a gift horse in the mouth!

Diarrhoea in Pigs.—It is an old saying that each litter of pigs must have one spell of diarrhoea just about the time they first begin to eat. The feeder will generally know when the disease is near, as their voidings will be of a dark color and resemble that of sheep. If the sow at that time receives a dose of salts, followed with a teaspoonful of sulphur, for a few days, and if charcoal and ashes are handy, the trouble may be avoided, but if neglected dysentery will follow, which will check growth. Some of them will be quite sure to die, and every litter in the herd is likely to take it. If they do, keep them out of wet pastures and give them a dry bed and a few oats or barley. Two drops of laudanum in a teaspoonful of sweet cream to each pig will help matters.—Dakota Farmer.

Shipping Advice.—Don't fail carefully to inspect your shipment before closing the box. Put in the memorandum on your own bill head, or an envelope, showing the count and other data. Keep a duplicate yourself, and thereby save much annoyance and frequently a loss. Don't chase off into a new market with untried people, just because of a possible temporary advantage. Nine times out of ten you will lose. Keep in touch with a good house in several markets, and use judgment in shipping to any of them. Watch the reports and forecasts, and then allow for weather changes.—A Few Hens.

Variable Fat Contents of Milk.—A sudden change of feed, whether in character or amount, is very likely to produce a temporary change in the quality of the milk; not directly, but as a result of the effect of the feed upon the physical condition or health of the cow. As soon, however, as the cow becomes accustomed to the change of feed, the milk returns to its normal condition. In other words, the feed has no appreciable, direct effect upon the per cent of fat in the milk. This is governed by the inherent temperament, or quality of, the cow herself.—Hoard's Dairyman.

Soil Moisture.

The Kansas Experiment Station is studying the effect of various modes of soil treatment upon soil moisture. That the well-known effect of a mulch can be approached by proper tillage of soil is a fact not as widely acted upon as good farming dictates. One of the station fields which contained in round numbers 26 per cent of water in the first foot of soil, on July 7, 1898, had one portion plowed, another disk-harrowed and a portion left untreated. The ensuing dry weather in the course of four weeks, notwithstanding several light rains, reduced the moisture of the untreated part to 15 per cent and that of the disked land to 18 per cent, the plowed ground retaining 21 per cent. The last two were in excellent condition for seeding, while the first would plow up lumpy and unsatisfactory.

The weight of an acre of the dry soil to the depth of one foot may be taken as 1,600 tons. Each per cent of water in soil to that depth represents about 16 tons of water per acre, or one-seventh of an inch. The water apparently lost by the untreated soil was 176 tons per acre, equivalent to over one and a half inches of rain. This is about one half what the soil would hold after a soaking rain. The real loss was much more than this, since as water escaped from the upper foot, other would be drawn up from below by capillary attraction.

The Codling Moth.

The Latin name of this insect is carpocapsa pomonella. We are sure that all our readers are interested in this insect, as it is of all others the most persistent in injuring our apples. The illustration on this page shows the moth and worm about life size, the only figure that is enlarged is that one marked "h," which is the head of the larva. At "a" we see the apple burrow; at "b" the place where the worm entered the apple; at "d" the chrysalis or pupa; at "e" the larva or worm; at "f" the moth with wings closed; at "g" the moth with wings spread; at "h" head end of larva; at "i" the cocoon in which the larva changes to a chrysalis. The worm is so well known to every apple-eater that we need not describe him, more than to say that he is flesh-colored.

As to remedies, a bulletin of the Colorado station says: About one week after the blossoms have fallen, make a thorough application of Paris green or London purple in a coarse spray in the proportion of one pound to 160 gallons of water. At the end of one week repeat the treatment, using the poison a little weaker (one pound to 200 gallons of water), unless heavy rains have intervened to wash off the poison of the first application. The Kedzie arsenite of lime may be used in place of the above poisons if preferred.

In addition to one of the above mixtures use the following: Put burlap bandages on the trunks about June 15 and remove them every seven days to kill the larvae and pupae under them till the last of August. Then leave them until winter or till early the next spring, when they should be again removed and the worms beneath them killed. The prompt destruction of fallen fruit will kill some of the worms, but not a large proportion of them, probably 15 per cent. Keep screens on windows and doors of cellars and fruithouses where apples are stored, to prevent the moths that hatch in these places from flying to the orchard. Scald in boiling water all boxes and barrels that have lately contained apples, pears or quinces.

The Russian Thistle.—Of the passing of the Russian thistle Prof. Busey says: "In a recent journey of nearly a thousand miles in Nebraska, including a broad belt of counties, from those touching the Missouri river on the east, to the Wyoming line on the west, I found that everywhere the Russian thistle is of relatively much less importance than formerly. It is a weed, no doubt, but one which finds little opportunity for troublesome growth on ordinary farms. On fallow ground it still grows large and assumes a spherical form, but ordinarily it is low and slender. Many farmers and ranchmen esteem it highly as a fodder plant when fed early, and many cut it early and make it into nutritious hay. The day may yet come when the sheepgrowers of the plains will take pains to grow the Russian thistle as a fodder plant."

The principal materials used as stimulant fertilizers are lime, salt and plaster. The real object in liming soils is to correct some physical condition. If land is too heavy, a dose of about 40 bushels per acre of slacked lime will lighten it. If too light, a similar application tends to make it more compact. If sour, as a result of turning under green crops, or from other causes, the action of the air slacked lime will be to sweeten the soil. A dose of lime about once in every five or six years will be sufficient.

Hogs should be kept in condition for market after they have attained the size desired. Before that time the fattening process may check growth.

Muck soil that will grow a good crop of onions or potatoes will grow a good crop of celery the same season.