

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 Work of the Harrow.

There is no farm tool that occupies a larger place in the work of the farm than does the harrow. Its popularity has grown as agricultural knowledge has increased. It is now used oftener and in more places than ever before. A generation ago each farmer thought one harrow sufficient for all his needs; but now the scientific agriculturist feels that he can invest in several with profit, obtaining thus tools that will do perfect work under almost any conditions likely to arise on the farm and on any soils.

Year by year the farmer is coming to understand better that he must make war on the clod. The plow creates it; the harrow alone can destroy it. In it is locked up the plant food that should make a part of his revenue. The clod resists the roots of the plants and they run around it. If it lies on top of the ground it dries out and the humus in it is destroyed to the extent of its exposure to heat. Whether in the soil or above it, the clod, like a stone, occupies valuable room. If it lies above the ground it shuts off light from the soil under it. If it is in the soil it lies in that part (near the surface) where the room is most needed for the development of roots. On heavy soil clods often occupy a very large percentage of the ground, both on the surface and under it. This is equivalent to putting that amount of ground out of cultivation, which means, in turn, a proportionate decrease of the crop.

There is only one way of getting rid of these clods, and that is by use of the harrow. By this implement the clods are pulverized on the surface and for two or three inches in the ground. The feeding area is thus increased, and the ground brought into a condition where it can be used as a starting bed for the tender shoots first sent out by the seeds. Insufficient harrowing is often the cause of great loss in the crops. Where the ground is inclined to be lumpy and the harrowing has been only imperfectly done, the air is admitted to the ground in all directions and through spaces so large that the moisture is dried out of a considerable portion of the soil. This drying out renders it exceedingly difficult for the seeds to get a foundation in which to develop their shoots. Many instances of this kind might be cited. In one case in the mind of the writer a sod had been turned over for corn. The harrowing was so imperfectly done that whole furrows of the turned soil were separated from the subsoil to an extent that permitted the air to move through and under them and dry out the earth. The season was dry, or rains might have washed down enough soil to fill up the open spaces. As it was, the corn crop proved to be a failure, except where the kernels of corn fell into the bottoms of the furrows. Elsewhere, the kernels sprouted and sent up feeble stalks, which never obtained enough moisture to reach maturity or form ears. By sufficient harrowing the soil would have been pulverized sufficiently to establish the action of capillary water throughout and the whole corn crop would have been fed. Doubtless the farmer in the instance mentioned lost enough money on this one crop to have purchased a good many harrows.

The harrow is the enemy of weeds and the most potent factor in destroying them. Before even the top of the tiny weed gets to the surface of the ground the harrow goes over them, if the harrow is on the alert, and they are destroyed. Their tender rootlets, which were just getting fixed in the soil, are loosened, and, being near the surface, are dried out before they can re-establish themselves. The form of harrow that we call a "weeder" will often be found of immense value in the destruction of weeds, as it can be used when the corn crop or potato crop is well up, and in such case it will keep down the weeds without injuring the crop that is being grown. This is because its teeth go far enough into the soil to turn out the newly started weeds, but do not go down to the roots of the potato or corn plants.

Some of our best orchardists, as well as our general farmers, are using weeders extensively. The writer was in the peach orchard of Mr. Morrill of Benton Harbor, Mich., and was forcibly struck with the extensive use being made of weeders there. These implements were being so extensively used that the ground throughout all the peach orchard was as bare of weeds as a floor. Mr. Morrill said to a party of friends present, "Here is a good place for some of you to make money. Go through my orchard and pull up and bring to me every weed you find; I will give you a dollar apiece for them." That was what the use of the weeder accomplished there. The moisture and the plant food in that or-

chard were not used for the feeding of weeds, but for the development of peaches.

Every form of harrow has its place on the farm, and no farmer can afford not to have enough implements of this kind to enable him to do the very best work.

New Blackberry Culture.

R. M. Kellogg, in his pamphlet, "Great Crops of Small Fruits," says: Nothing sells better, nothing pays better, nothing is grown more easily than blackberries. The new method of starting the plantation produces double that of the old way. Its fruit is more luscious and a plantation will fruit heavily under good culture and pruning from fifteen to twenty years, giving annually large crops. The demand for this fruit is practically unlimited. The trouble is blackberries as offered are sour, seedy, and lack flavor. Scarcely a town in the country is supplied at all with large luscious blackberries.

How it is Done.—Pursue the same method explained in breeding up strawberries. Find all the ideal canes bearing the finest fruit and not over two years old. Early in the fall dig them up and cut roots in pieces about three inches long and pack in boxes of clean, coarse, sharp sand and place in a cold cellar regulated with ice so the thermometer will stand at 35 degrees. An ordinary cellar will not do, for if allowed to get too warm the cuttings will commence to grow and all be spoiled. If allowed to freeze they will not callus and thus fail to emit sufficient roots.

What is a Callus?—It is a law of nature that when a root is cut or injured the plant will repair the damage by sending out new roots, but no new roots will start until a callus is formed. Certain wood cells and a gristle-like substance must form, and out of this callus the roots start. The process requires time and goes on at a low temperature and the longer the root is kept in this dormant condition the more calluses there will be.

Roots prepared in October form calluses in great numbers before planting time the following May, when the cuttings are placed in nursery rows in rich, moist, sandy soil about three inches apart and one and a half deep. It is quite difficult to make them grow properly without irrigation. If the roots get dry they will fall. If buried too deep they damp off and die. Low, springy or cold ground will not do. They must have frequent cultivation and not a weed allowed to grow among them. As soon as dormant in the fall, the plants are carefully taken up and roots trimmed to the proper length and again packed in coarse, sharp sand so it is solid around every root and kept as in the first winter, when calluses form all along the sides and ends of roots so that when planted out where they are to fruit in the spring myriads of roots will start at one time and at the end of the season the ground will be full of fine feeding roots as above described. In keeping them in the callusing cellar it should be supplied with ice, for if perchance the cellar gets too warm the plants will grow and be lost.

The common way is, as in the case of raspberries, to let a patch fruit as long as it will and then mow off the tops and let suckers come up from between the rows and the next season to dig them up to start a new patch. Of course the weakness and exhaustion of the old patch is carried into the new. The roots on the plant are few and commence growing always from the end, and I have seen them extend several rods away, while near the canes the ground would not be occupied at all. The sap having to come through these long roots to the leaves for assimilation they are continuously sending up suckers which become a nuisance.

Horticultural Observations.

Onions are easily grown where the proper methods are used. The ground must be very rich, as growth to maturity should be rapid. The land must be thoroughly pulverized and afterward kept free from weeds. Sow the seed in rows eighteen inches apart and cover to a depth of one-half an inch if the soil is fine and compact. When the plants are well up, thin to three to five inches apart. Some advanced culturists follow the plan of replanting all their onions, selecting for that purpose only those that show great vigor.

For watermelons the land should be thoroughly pulverized and well manured. Plant the seeds as soon as the danger of frosts is over. One of the common ways of planting is to check off the ground eight feet each way, dropping three or four seeds in the center of each check. When the plants have made a good growth and passed the critical periods of early growth they should be thinned to two vines to a hill. Keep the ground clear of weeds till the vines spread too much to permit of cultivation. For muskmelons prepare the ground the same as for watermelons, but make the squares in which they are planted four feet each way.

There are about 30,000,000 acres of unoccupied public land yet remaining in Montana.

The Shyster and the Law.

There are various methods by which the unscrupulous fakirs who infest the produce trade succeed in swindling country shippers and still keep themselves out of the clutches of the law, says the New York Produce Review. The old way was to get up attractive and often expensive and high-toned stationery, posing as commission merchants, quoting prices for produce higher than could be obtained, and guaranteeing phenomenal results based upon claims of exceptional facilities. Prompt returns would be made for the first few shipments, then there would come great praise of the goods, and calls for larger quantities; then slower returns until enough goods were in the hands of the frauds to make a good sized haul; then a general selling out, pocketing the proceeds and a fly by night to other fields where the same operation would be gone through under another name.

But this was risky business because the laws referring to commission sales are likely to be effective and failure to make proper return may result in arrest, criminal prosecution and perhaps imprisonment. The new way is safer. The snide does not pose as a commission merchant but simply offers to buy produce either on track at shipping station or delivered in the city where he locates. He quotes high prices, cash payment, "no commission" and, as a bait to get goods, generally says "why pay commission for selling your goods when you can sell them to us for the highest market prices without any deduction except for freight?"

This is attractive bait and there are usually many to bite the hook. A trial shipment is made, and back come the returns as prompt and as satisfactory as possible. Other shipments may be paid for promptly also and as soon as the shipper's misplaced confidence is won he is entreated to make larger shipments. Then payment begins to fall behind, but excuses are made until the indebtedness is as large as possible; perhaps notes are given to coax along further shipments, but before the notes become due the house fails.

Now as this scheme is worked on a large number of shippers at once—as many as can be caught with the bait used—the total stealings may amount to a good many thousand dollars and the creditors have no redress unless they can get positive proof of fraud—which is a most difficult matter. And as they can't squeeze water out of a dry sponge and few of them would pursue the criminals merely for vengeance sake, with no hope of getting back their property or its value, the rogues escape, probably only to start up again under some different name and do the trick over again.

The basis of success in these nefarious operations is the lack of confidence with which many shippers regard the commission trade. There are many who look upon an unusually tempting offer as merely the sign of honesty and integrity; they seem to think the commission man gets too much out of their goods and when a man comes along who says he will pay top prices "no commission" the country shipper seems to say to himself "here at last is an honest man." Then he bites the bait and gets left.

It is best to realize that service in selling goods—as in other performances—cannot be had for nothing. There are many honorable merchants ready to receive consignments of produce and obtain their full value, to whom shipments may be entrusted with the utmost confidence. When strangers come with offers to do better it is safe to suspect fraud until the most careful investigation proves the contrary.

Size of Carriage Horses.

A New York horse buyer recently said: A horse that is 15.2 hands high and put up right, with plenty of bone, substance and quality, is big enough to do any kind of work that a carriage horse is called on to do. In nine cases out of ten a horse of this size will outwork and outwear a horse of sixteen hands or higher. You see he isn't so likely to pound himself to pieces on the hard pavements for one thing. Then again he has better command of his legs than a tall horse has, and therefore doesn't tire so quickly. Of course large horses are required for large carriages on account of appearance. A horse no higher than 15.2 hands would look like a pony in front of some broughams and a pair of this size hooked to an opera bus seating six or eight persons would spoil the appearance of the whole equipage, no matter how handsome the horses might be. But aside from the looks of the thing, a short-legged, big-bodied, four-cornered horse of the size I have named could do the work and do it fully as well as one a full hand taller.

Wooden utensils and vessels should be first washed with hot water and then scalded with boiling water or steam. They should then be well aired, but not too much exposed to the sun, as that would cause warping or cracking.

Smartness enables a man to catch on and wisdom enables him to let go.

There is no inspiration to independence like an assured income.

Some Anecdotes and Incidents

Maurice Thompson's Nerve

As illustrative of the nerve of Maurice Thompson, a story is recalled here, writes a correspondent of the Indianapolis News. Along in the '70s a line for an east and west railroad was sur-



"WOULD SHOOT DEAD THE FIRST SURVEYOR."

veyed through Rockville and considerable work was done in making a grade and even laying some iron near town, in order, if possible, to secure a subsidy that had been voted. The proposed line passed through the farm of Squire Beable, one time sheriff of Parke county and a very determined man. His farm, which lay a short distance northwest of Rockville, was a very fine one, and he was very proud of it. The road would greatly damage it. In consequence Mr. Beable declared that it should not be built through his farm, affirming that he would shoot dead the first surveyor that tried to come upon his land. When the surveying corps, of which Mr. Thompson was the chief, arrived at the Beable farm, they found the old man stationed near the fence line with his old long-barreled squirrel rifle in hand, much excited and breathing out threatenings and slaughter, saying that he would kill the first man that tried to enter his land. Mr. Thompson waited but a moment, when he whipped a revolver out of his hip pocket, jumped the fence and compelled the irate old gentleman to put aside his gun. The surveyors then proceeded to survey the line through the Beable farm and the grade was afterward built, destroying some magnificent fields, and there the damage remains to this day. The railroad was never built.

Grant's Old Sergeant

One of Grant's old sergeants was a farmer in southern Oregon when the general arrived at Portland homeward bound from his tour around the world. He read of the proposed receptions to be given him in the city and also at Vancouver barracks, and could not resist the temptation to make the trip and once more see the old commander, says the Saturday Evening Post. At Vancouver he found a number of men he had known when the army was in Mexico. The old fellows made up their minds to make a regular, not a hustling, reception call upon the general. The ordnance sergeant said that as he had carried ammunition to Lieut. Grant at the battles of Palo Alto, Mon-



"THE SIX VETERANS HAD A REUNION."

terey and Chapultepec, he would call and see the general and arrange for the meeting, or reunion, as he termed it. Soon after Gen. Grant reached department headquarters—Gen. O. O. Howard was then in command of the department of the Columbia—the old

ordnance sergeant appeared and asked to see Gen. Grant.

"Do you know him?" asked an aid. The sergeant straightened up, saluted and said: "We have met, sir; the last time was at Chapultepec, where I supplied his company with ammunition."

"Gen. Grant," said the aid, "there is an old man outside who was with you at Chapultepec. He wants to see you a moment."

"And I want to see him," said the ex-president, then the best-known man in the world; "have him come right in."

The general could not remember the sergeant, but he recalled the ammunition incident and was very cordial. It was arranged that the five old chap should be at Gen. Howard's half an hour before the reception was to begin that evening.

At the appointed hour, clad in their best, boots glistening, hands in white gloves, and as erect as veterans of their age and experience would allow, they appeared on the walk in front of Gen. Howard's house.

"Have them come in," Gen. Grant said, and they went direct to his room. After shaking hands—both hands with his two hands—he turned to the cluster of officers and men and women and asked them to excuse him for a time, and then led them to another room, where for more than half an hour the six veterans of two wars had a reunion. The general remembered and alluded to the mule taming experience. He had many pleasant words for each. Hundreds of ladies and gentlemen had gathered in and about the house. Twice Gen. Howard went to the door to tell Gen. Grant that the hour for the reception to begin had arrived, and twice the general had said: "Wait a few minutes more."

Then, after he had taken each by the hand and spoken a tender goodbye, he stepped to the door and called out:

"Howard, go ahead with the reception."

A Spiritual Uplift

A church festival was being held in the opera house and an attractive young lady was selling lemonade as one of the methods of raising revenue,



"POURED IT INTO THE LEMONADE TANK."

says the Punxsutawney Spirit. But in spite of the attractiveness of the young lady and the excellent purpose to which the proceeds were to be devoted, business was slow. Three young men hatched out a very wicked scheme to stimulate business, and incidentally stimulate the crowd in attendance at the festival. They procured a quart of whisky, and when the attention of the young lady was attracted elsewhere poured it into the lemonade tank. They then began telling about the excellent quality of the lemonade. A number of people tried it and reported to their friends.

Business began to boom. It was only a little while until the tank was empty, and had to be refilled. It was a great hit.

Some time afterward, when one of the wicked young men confessed the diabolical conspiracy to stimulate the sale of lemonade, and it came to the ears of the minister's wife, she cried about it and said it was a scandalous shame.

Rise of Steam Navigation.

The rise of steam navigation was slow. Like most things new, it had opposition. In the sixteenth century an unsuccessful Italian genius tried to apply steam to navigation. In 1736 a British patent was taken out for a steamboat. It was 1807 that witnessed Fulton sailing up the Hudson in a boat driven by steam. In 1838 steamships crossed the Atlantic.