

through R, it opens the valve N, in the ram, and rushes up the pipe X. The momentum ceases, and S again opens, and allowing a fresh flow of water, occasions the former impulse to be renewed, and more water to pass into X. So rapid is the action of this machine, that the valve S is in continual vibration, and an incessant stream of water is produced.

The large engraving on our first page, shows how a stream of water, dammed up to form a pond, may be made to drive a ram and supply a dwelling and barn-yard at a considerable distance. As already stated, each foot of fall will count ten feet of an elevation in the delivery pipe. The volume of water furnished will depend on the size of the ram. The smaller sizes deliver through a half-inch pipe, and this constantly full and flowing, will supply a large quantity of water. The feed pipe must be larger than the delivery pipe, and in proportion as you increase the size of the former, you may enlarge the capacity of the latter. This machine is not expensive. One capable of throwing a half inch stream will cost about \$9. In addition there is, of course, the expense of the pipe, which will depend on the distance to be accomplished. Either lead or iron pipe may be used: the iron is best. Wooden tubing is sometimes used, but metal is considered better. The hydraulic ram is not very liable to get out of order. It goes regardless of the weather. Even severe frost does not stop it. The pipes need to be laid below the reach of frost, but that is the only precaution requisite. It is well to be at a little trouble and expense to cover in and protect the ram, as illustrated in our large engraving, but this is not absolutely necessary.



Our third engraving will show how simple and cheap an arrangement will answer the purpose, and may serve to remove the objections of those who think they cannot do anything very elaborate and costly. The hydraulic ram is a very useful and effective device for feeding ornamental jets and fountains. No landscape is complete without water in some form or other. Even a small jet is a very pretty embellishment to a place. We hope to live to see the day when gardens and ornamental grounds will be more common upon the farm. Why should beauty be so despised? It is as truly food for the mind as bread and meat are food for the body. When matters of taste and adornment are studied more, many a little creek flowing near the farmer's home, will be coaxed to disport itself in jets and fountains, and so add to the charms of the scene. There is no reason, moreover, why the farmer who has a good living stream, should not have his fish-pond, and raise fat trout for the table and market, just as he does fat chickens and ducks. Thus utility and beauty would be combined.

We are not aware whether there is a manufactory of hydraulic rams in Canada or not. Messrs. Rice Lewis & Son, hardware merchants of this city, are agents for an American firm by whom they are manufactured, and have always a stock of them on hand of all sizes

Hints for September.

FINAL preparation of the land, and sowing fall wheat are the chief labours of this month. Let the ground be thoroughly mellow, clear of weeds and their seeds, and, if possible, have some fine manure to harrow in with the seed wheat. By all means use a drill if it can be procured. It is much better to do so than scatter broadcast. Timothy should not be sown at the same time as the wheat, when it is intended to seed down the land. A fortnight later is preferable. Clover should be sown as early as possible next spring. Seed wheat infected with scab should be washed in brine and then sprinkled with powdered slacked lime and well stirred. Begin to give attention to hogs and other stock intended for the butcher. The mistake is often made of deferring the care of fattening animals until too late in the season for them to be fed to advantage. Autumn top-dressing of meadows is a good plan if there be any suitable manure to do it with. There is a lull of work between grain harvest and the securing of the root and other late crops which may be improved for doing many odd jobs. Provision of proper shelter for stock, draining of swamps, clearing off meadows of scattered stones and rubbish, picking out weeds from among turnips, so that they may not go to seed, repairing fences, soiling cows and cattle if the pastures are bare, ventilating and cleaning cellars, drawing out stone, and if there be abundance of this material, making stone fence. Corn will need harvesting this month, and with careful preservation, the stocks will prove valuable fodder. Make time to attend the Provincial and Local Agricultural Exhibitions, and be sure to take wife and children, that all may enjoy an improving holiday. This is a good month for butter-making, and the winter supply should be thought of about this time. In the garden, with the exception of the never-ending fight with weeds, there is not much to do except the pleasing work of ingathering. Strawberry plants may be set out this month, and with careful hoeing, weeding and watering, may be made to yield a fair crop next spring. Ground for new gardens or orchards should be well prepared in autumn by ploughing, manuring, and thoroughly mellowing. We recommend spring as the best time for planting out fruit trees in this climate. For bee-management in September, see "The Apiary" department.

Cultivating Wheat.

You want a dry, compact soil for wheat, in good heart, with lime and clay in abundance. There is little lack of these in most soils for raising the usual crops of the farm, especially of clay. For wheat, lime may be almost always applied with advantage. It strengthens the straw, and improves the berry. The mode of using it is, to spread it over the land after the last ploughing, at the rate of ten to fifty bushels to the acre, followed by the harrow. It is easy to apply it and will always reward for the trouble, with something over for the years following, as it has a lasting effect.

If the soil is poor, nothing is so good as to turn down a crop of clover or peas. These not at hand, manure, well-rotted, should be used, or the crop abandoned.

Corn ground, any ground if rich, compact, and well-balanced, will produce wheat. This much, however, must always be borne in mind—that the soil be dry, dry throughout. Otherwise it will heave, and be productive more of weeds than of grain. Wet soil should be drained, or wheat kept off; it is too valuable a crop to be treated shabbily.

It is not good in general to plough often for wheat, as it loosens the soil too much. It should, however, be sufficiently friable to work well with the drill. Of course, deep tillage is what is wanted for wheat, as it has many roots, and they occupy the soil above and below. A set near the surface, on the stem, extends outwardly; the roots from the seed extend downward; and thus the full soil is occupied. Cultivate deep, then, and mellow.

Sow six pecks to the acre, that is, if you sow. The best crops are obtained by drilling—best on many accounts, though the condition of the soil has much

to do where the drill is used. First and foremost, the land must be clean, or weeds will spring up between the rows. Corn ground is therefore objectionable on account of the bad tillage which that grain receives. Weeds get a chance to ripen, and sow the soil before the wheat does—and nothing will hinder a crop of weeds. Unless, then, you have a choice soil, as you should have, sow broadcast.

Clean culture reminds us of what we saw the past season, in travelling through the Genesee valley. The culture of wheat there is carried on to perfection. Weeds are not seen—or have not been so far as our observation extended. It was clean soil, clean culture, clean in appearance throughout. Nothing surpassed the beauty of these wheat fields. And so should it be here. It benefits there, and it will here.

Drilling has been practiced in Genesee for many years—and is an established thing, superior in many respects to the old mode. In Ohio, and in most of the wheat-growing States, the advantage of drilling is understood—and the little rows, thick and clean, show the superiority over the old mode.

Wheat is sown with us from the 16th of August to the 15th September. The best time for sowing is much depending upon the season that follows, the weather, and the location. Each must run his own risk.—*Rural World*.

Preserving Potatoes.

If grown in a lime soil, or with some fertilizer containing lime, as wood ashes, or some compost of which lime is a part, in the hill, we have them in perfection. What folly not to preserve them in the same perfection, the year round, or at least till the next year's crop is ready to take their place, if this can be done. But can it? Yes.

How? Look at an often observed fact, and you will have the secret. When a tuber is left in the soil over winter, if not too near the surface, where it will freeze and thaw too many times, it is always found when ploughed out in spring, in a fine state of preservation—not wilted—sound and hard as in autumn—cracks open in boiling—has all the meanness and fine flavour of the previous October—in short, has retained all its fine qualities unchanged, from October to May. It is always so with tubers thus wintered, as thousands have observed.

Now let us look at the attendant conditions in which these tubers have been so finely preserved. They were not sunned. Some think it well to let potatoes lie under a scathing September or October sun, five or six hours, before storing them. They could hardly do a thing more calculated to hasten a deterioration. Every moment of sunshine on potatoes, when harvested, injures them. They were not aired, for being left in a soil, compacted by the fall rains, little air could circulate among them. They were in total darkness all winter. They were moist by reason of the fall, winter, and spring rains and melting snows. They were cool, nearly to the freezing point, and sometimes below it. They have then coolness, moisture, darkness, little air and no sun as the attending circumstances, or conditions, of their perfect preservation. If this does not teach us a lesson, it is because we are not quick to learn.

But there is another fact, tending to the same conclusion. There are farmers, who, for a long series of years, have practiced as follows: dig their potatoes late, carry them at once to the house, dump them through a side window into the cellar, with all the soil that naturally attaches to them, and then let them be till wanted for use, a part of them as late as the following June, taking care to keep the cellar windows open fall and spring, and to open them in mild weather, during the whole winter.

It happens that those which fall near the window retain most of the moist soil that falls with them and are almost as completely imbedded in earth as are the stray tubers left in the field till the spring ploughing. Now if that portion of the year's stock, which is thus imbedded in the moist soil be left till the last, these are found by many years experience, to remain fresh and good, hardly at all wilted; eyes hardly swelled till about the first of June. This implies a cool and damp cellar; and when these points can be obtained, there is not the least difficulty in a perfect preservation of the potato till as late as from the 1st to the 15th of June. The conditions, if we look at them, will be found to be nearly the same as in the other case,—no sun, little air, little light, moisture, coolness.

Now it cannot be necessary to describe minutely how these conditions can be secured, for the potatoes you would preserve in all their autumnal excellence, for spring and summer use. Let every one devise the best method for his own case. One who has a cool, damp cellar, so fitted with windows that he can easily keep the temperature low at all seasons, may find that the best place to pack away potatoes for spring