

AGRICULTURE

Irrigation For The Market Gardener

The market gardener of today finds that if he would produce his maximum on his land he must depend on other means than nature for the moisture which is absolutely essential to the growth of plant life.

For the past few years there has been a certain season in the year when no rain fell. Generally this time is when the crops are germinating or just through the ground. This year we have had little rain since the middle of April, then only in heavy dashes which did no good. One man at the Ontario Convention of Vegetable Growers in Toronto, last November, stated that he would be compelled to go out of business without his irrigation system. One man in Toronto has spent \$1000.00 to bring the water only as far as his gate and must spend another large sum to distribute it over the fields. But he realizes that the money is well spent.

This, then, leads us to seek for information regarding systems of water distribution. There are four in use at the present time: Furrow, Sub-irrigation, Campbell Sprinkler and Skinner. These I shall try to explain in detail:—

(1) Furrow System:— This system consists in running a furrow beside the plant row with a

hoe or garden glow, letting the water run down it. This system cheap and easily used, but is wasteful of water, loses greatly in uniformity of distribution, the plants at the upper end of the row being flooded while the ones at the lower end are very dry, and lastly causes baking of the soil and fosters the growth of weeds.

(2) Sub-irrigation:— This means the laying of rows of 2 1/2 inch tile in the field, 8 to 15 ft. apart, the tile being 4 inches to 2 ft. below the surface, depending on the soil. The heavier the soil the nearer the surface and the Moser the rows are together. This system prevents evaporation, requires less tillage, and causes no baking of the soil, but is very expensive and must be taken up each fall through danger of frost. It is very good for greenhouse work on crops like tomatoes and lettuce as it prevents many of the diseases which commonly are caused by excess of moisture.

(3) The Campbell Sprinkler:— The system is found around Jacksonville, Florida. The system for an acre of ground consists of 14 sprinklers set on upright pipes which are fed from pipes below the ground. The sprinkler throws the water in a circle of 23 ft. radius, somewhat like a lawn sprinkler. They are set alternately so that the whole area

is covered. This system is fine for frost protection and for irrigation of small fruits, but will hardly do for vegetables as it applies the water too heavily putting on 25,000 gallons in 4 hours time on 1 acre.

(4) The Skinner System:— The last and best system is made by the Skinner Irrigation Co. of Troy, Ohio. This system is in use in many parts of Ontario and is to be seen here at MacDonald College. It consists of parallel rows of pipe set from 40-55 ft. apart according to the amount of water pressure the grower has. In the pipe are nozzles every 2 1/2 ft. which throw the water in a fine spray, that gives the system its common name—Mist System. Where the laterals are attached to the main feed pipe there is a special union which allows the lateral pipe to rotate completely round. The water may be applied at any time of day as the spray is very fine and causes no injury to the plant or soil. It is easily looked after, as the man can be doing other work in the garden. It gives clean foliage and beautiful vigorous growth. I would like to impress on the reader, however, that irrigation will never take the place of cultivation. The two must go hand in hand if results are to be obtained.

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Making Potatoes Pay

There is no secret about growing good potatoes, yet the average crop is not more than half what it should be, and in most cases could be, with the same equipment and conditions that the growers now possess. I know from my own experience that the good crop is mostly a matter of doing the work more thoroughly at two or three points where many planters are in the habit of skimping.

The first step is good seed. The potatoes selected for planting should be as nearly as possible like your ideal for harvesting in the fall. Remember that the pedigree or origin of your seed stock is of just as much importance as the size of the tubers selected.

I am satisfied that it pays to treat all seed planted, whether it shows signs of scab or not. The solution used is one pint of formalin to thirty gallons of water. We use two or more tight barrels, with wire sieves fitting over the heads, and a tub or half barrel. After the tubers are soaked the solution is poured into the tub, the potatoes being held back by the sieve and then turned out into a bushel box. A new supply of tubers is then put into the barrel and the solution is poured back on them. It can be used over and over again.

As to the amount to plant, there is a saying that the more seed planted the bigger the crop. This is often true, but it does not follow that the profits are bigger. The percentage of second-size tubers will be much greater, and, if seed is high, the cost of planting will be increased. If the soil is thoroughly prepared, good results and frequently the biggest profits will come from cutting to one eye, as there will be practically no weeds.

We have grown fine potatoes from

seed cut this way, but for the regular crop, which we put in with a planter, we cut to pieces about a quarter the size of a medium potato, containing in most instances two good eyes. In varieties that set a cluster of eyes around the seed end, this plan should be discarded or the eyes should be distributed as evenly as possible among the seed pieces cut. But in the three varieties that we use almost entirely—Irish Cobbler, early and Gold Coin and Russet for late—the eyes are well distributed.

I am confident that one of the greatest causes of the low average yield is lack of thoroughness in plowing and harrowing—especially harrowing. The soil may be within a wide range, but a deep, medium-heavy loam, inclining toward a sandy rather than a clayey nature, is ideal. A soil that is thin and light dries out too quickly in a drought and also wastes plant food. A soil too heavy contains too much moisture, is hard and late to work, and tends to lower the quality and the appearance of the crop.

Poor Plowing Causes Failure.

In preparing the soil for potatoes, plow deep. Many farmers, in their hurry to get the job done, forget that a furrow slice has two dimensions. Even if you are late in setting, start, and some of your neighbors have already planted, don't yield to the temptation to jam the foot shift over and cut a furrow as wide as the plow will allow, while the depth lever is set for one-third or one-half its depth. Par better to take a day or two more and get this first job done right; you cannot possibly make up for a poor start. Plow as deep as your soil will allow, and then just a little into the subsoil, but not en-

ough to throw any amount of this up to the surface. If this kind of preparation takes any extra time charge it to permanent improvements instead of the potato crop. But depth isn't the whole thing. I found that out to my own cost in one of my early attempts. I had to hire the plowing done that year. The first thing the man I employed did was to pace off the amount of ground he intended to plow in half an hour and a stick there. The plow was a new one; the field was an old meadow, employed for years, and beginning to run down. After a few furrows he took the collar off, saying he could plow more evenly without it. He made a very nice looking job—every slice just as flat and straight as if it had come out of a mold. It harrowed very nicely too—we had to go over it only once. Then I had a machine come and plant it.

One potato sprout appeared for every three or four there should have been. The seed had been choice, but at first I blamed it for the failure. Then after I had worn my fingernails off digging down into the soil, I began to suspect what had happened. And after we dug in the fall and found pieces of that sod turned over smooth from a foot to a yard in length and almost as firmly intact as on the day they had been plowed, I was sure of it.

The plough of the potato planter had cut through the sods in places and in others had run between the furrows, dropping the seed where they had no possible chance of breaking through the matted covering above them. In other places the fertilizer had not a chance to mix properly with the soil and had come into direct contact with the seed, killing the sprouts. Worse than this, when the midsummer dry spell came that year

of flat, inverted sod had effectively prevented the surplus store of water in the moist soil below from being drawn up toward the surface, where the thirsty plant roots needed it. From that experience I learned that it is a great mistake to turn over flat any soil, green crop, or even straw manure, that can form a layer or cushion between the surface and the subsoil. It is about as sensible as going out in dry weather and cutting the pipe that supplies your stock with drinking water.

Harrowing is just as important as plowing, and is more likely to be poorly done. One piece of ground may need to be gone over thirteen times to get it to the same degree of fineness and good till that two or three workings would accomplish on another. For best results potatoes demand that the soil be worked as fine and light and loose as possible. Fine not only upon the surface but several inches below that. Don't try to keep track of the number of times you go over your potato field with the harrow. Keep at it till the soil is in the proper condition. If you have to go over it again, use a disk harrow. Keep at it till the soil is in the proper condition. If you have to go over it again, use a disk harrow. Keep at it till the soil is in the proper condition.

Before you plant you should be able to stick your hand up to the wrist into the soil anywhere and find nothing but fine loose soil and fragments of stubble or sod—no unbroken lumps or clods of soil or sod. When you can get a pile prepared like that your potato crop is half grown. Just before planting finish off the surface with a spike-tooth smoothing harrow. If the soil is very soft and loose it is of advantage to roll it just before or after planting.

To Discard Freckles, Tan, Pimples, Wrinkles

The use of creams on the face sometimes causes hair to grow. You can avoid the risk of acquiring superfluous hair by avoiding cosmetics and using mercolized wax instead. There is nothing better for any condition of the skin, as the wax actually absorbs the offensive cuticle. The latter is naturally replaced by a clear, smooth, healthy complexion, full of life and expression. It's the sensible way to discard a freckled, tanned, over-bloated or pimply skin. Get an ounce of mercolized wax at any druggist's and apply nightly like cold cream, washing in the morning with soap and water. It takes a week or so to complete the transformation. The ideal wrinkle eradicant is made by dissolving an ounce of powdered borax in a half pint which has been bathing the face. The solution brings almost instant results.



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years ago by Sir Geo. Doughty, of Grimby, lately deceased. British Columbia creditors of the concern to the extent of \$100,000 will get nothing out of the settlement today for the \$300,000 obtained in the sale will not near CLAIM OF DEMURRAGE. A Yarmouth despatch says that the Norwegian ship Mabella loaded with lumber for the River Plate is detained on a claim of demurrage to which D R Saunders, who furnished the cargo objects. It seems a sum of money, it is alleged, was paid to the master and the money paid. The Norwegian consul at Halifax is expected at month to arrange the difficulty.

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