

## SEPTIC SEWERS

One of the greatest problems in small cities and towns is the subject of disposing of sewage, and this knot-



J. P. VEATCH

ty question has no doubt been more nearly solved by the introduction of what are known as septic sewers than by any other modern discovery.

Salem has profited largely in a sanitary way by the introduction of this great discovery. The septic sewer enables every household to have perfect sewer privileges without reference to or connection with a public sewer. A number of these sewers have been installed in Salem, and they are proving a great success. The Journal wishes to briefly describe what one of them is like, and hopes to be able to carry a clear conception to its readers.

In the first place, the sewer and connections from the house are constructed just as they would be for a public sewer. Through this sewerage is discharged into what is known as the septic tank. This tank, for a single family, is about 3x4x5 feet. It is made of cement or concrete walls about four inches thick. It is built so that the upper edge of the tank is on a level with the mouth of the sewer pipe from the house at the juncture of the two. Thus all sewage from the house is emptied into this water-tight tank, and the question naturally uppermost in the minds of inquiring people is, "What becomes of it?" At the opposite side of the tank from whence the sewage is received is an outlet pipe on an exact level with the in-take. Both these pipes enter the tank with an elbow which turns downward about 10 inches. The result is that all the solid matter which goes into the tank floats to the surface. This forms a crust. The liquid matter remains below, and when the tank becomes filled it is very apparent that as a quantity of sewage is discharged into the tank at the in-take, an equal quantity is forced through the outlet, but that which is forced out is simply the liquid. The crust or scum of solid matter which forms on top becomes six to eight inches thick, and is a solid mass, in which the chemicalization takes place, and thus the solid and liquid matter are separated. The solid matter, by a chemical process of nature, absorbs itself, and only the liquid, which is almost pure water, is carried away through ordinary drain tile, either into an open ditch or into a running stream, and is perfectly odorless. In many instances where the slope is sufficient the contents of the outlet pipe

simply soaks away into the ground and becomes a system of sub-irrigation.

These facts are obtained from Mr. J. P. Veatch, the concrete worker of this city, who has successfully put in a number of these septic sewers. He is enthusiastic in their praise, and is confident that more of them will be built from year to year. He is also confident that their practical use has been demonstrated beyond a doubt, and that they will be used for all time. Persons interested in the subject of sewerage in their city or suburban homes would do well to discuss the matter with Mr. Veatch, whose portrait is presented herewith.

### Facts About Alfalfa.

(By Fred Achilles, F. R. M. No. 8, Salem, Marion County.)

There is no doubt in my mind that alfalfa can be grown as a profitable and successful crop in Western Oregon, and even on the tide lands. I have alfalfa four feet high at present that was sown eight years ago and has never died out. In all I have between 25 and 30 acres in alfalfa. I turn off 100 hogs each year, fattening them on green alfalfa and dry meal, and the butchers to whom I sell my pork all say it has flavor that they cannot find in other pork. My first experience was with California seed, but I have since used imported seed and find it better. The California seed costs 17½ cents a pound, while the imported costs 20 cents. Land sown last year in June was cut for hay May 20, and produced three tons to the acre. Since then I have let the stock out it down three times. Cows turned on green alfalfa give five to six quarts more milk per day. Dairy-men at Portland say they prefer alfalfa hay to any other for dry feed, and I have no trouble to sell at good prices. Some of my best alfalfa stands on land that is overflowed in winter six to eight feet. It does not pay to be stingy with seed in sowing alfalfa. I put 20 pounds on the acre. On old land I put \$5 manure to the acre. Plow land twice, once 15 inches deep with four horses, drag it well five or six feet before sowing. To make a perfect crop the alfalfa field should be separately fenced or have movable fences to feed down with hogs or cows when ready. After sown, before it gets into bloom it should be cut. The first year of growth it must be cut as often as it gets ready to bloom. If you let it go to seed the first year, you spoil the stand and check all future growth. As often as you mow it down the first year, you send the roots deeper and cause it to stool out. The roots will finally go to water or moist earth, and then you have the foundation for a fine stand and can feed or cut as often as it comes up after the first year. The crop is at least five tons to the acre. The season of 1904 has been very dry, but my alfalfa fields are green. I have several patches on new bottom land that has just been cleared of trees and it does very well there. The main thing is the first year. Do not let it get into bloom and keep stock off. After you get your stand you can feed it down to the ground, and it will come up thicker than ever.

### Onion Growing in Oregon.

(By J. R. Dimick, Hubbard, Marion County, Oregon.)

There is considerable land in Western Oregon known as a peat land or beaver-dam land that is especially adapted to producing onions. Any kind of sandy loam or rich bottom land, will raise fine onions, but not as large a crop as the above-described soil. The beaver-dam land is mostly found in creek and river bottoms. It is rock land, consisting of decomposed vegetable matter. This kind of land grows the largest crops of white, yellow and brown onions, or onion sets. It should be thoroughly cleansed of

roots and plowed in the fall. In the spring, it must be gone over with the disk harrow, and finally dragged. For large onions, we sow the seed in drills about one foot apart. Sets are sown in matted rows, eight to ten inches wide. The rows are eight inches apart. Crop is cultivated with machine cultivator and hand hoeing between the rows or mats. Weeds in the rows or mats must be removed by hand. Of growing large onions we thin the rows to one or two onions for each three inches in the row. Harvest when ripe by cutting under the onions to loosen them from the ground. Then rake three or four rows together and let them dry thoroughly. Rub off the tops, sack them in field and store them in the warehouse for marketing. I am growing four acres this year. Had six acres in 1902. We count on getting 300 pounds of sets onions from one pound of seed, or 20,000 pounds sets to the acre. On the best land 650 to 700 sacks of large onions to the acre are counted an average crop. It takes four to four and a half pounds of seed to the acre. We get from \$1.75 to \$2.25 a sack from shipping point. That is the prevailing price in February. We sometimes sell in the field in the fall at \$1 a sack. Like the hop business, the onion business has its ups and downs. When prices go above \$2 a sack production is rapidly increased and prices go down. I find my best market in Southern California, Arizona and Utah. Every grower has to build up his trade by producing a superior article in order to reach the maximum profit. By raising seed for that particular purpose, I am able to grow a late-keeping onion. Ordinarily they begin to sprout during the month of February, but I am able to grow them so that they will not sprout until the middle of March. The way to grow onions successfully is to have the right kind of land and then keep it perfectly clean and free of weeds. I keep my onion land as clean as a parlor floor, and allow no weeds to grow at any time in the year. I scatter straw along the edge of my field and burn everything right up to the fences to keep out the weeds. A boy weeded one and three-fifth miles along the rows in one day. Large quantities of onion sets and seed are grown in the vicinity of Salem, Woodburn, Hubbard and Aurora and other places in Marion county. Hubbard is the home of the onion set industry. I would almost be afraid to say how much can be made from an acre put out to onions, and handled exactly right, for fear your readers would doubt the correctness of my figures. We consider onions a very profitable crop and have made good money raising them for many years. I could afford to pay \$500 an acre for the best onion land and clear my investment on the first year's crop.

### Red Clover.

(By M. L. Jones, of Brooks, Marion County, Oregon.)

Red clover is a successful crop in Western Oregon on nearly all lands, from the foothills of the Cascades to the Pacific ocean. The value of clover feed and the fertilizing qualities of the growing crop are too well understood to need any discussion. My most successful experience in getting a good stand of clover is to carefully cultivate the land for a crop of grain as early as the land can be worked in the spring, sowing the clover seed behind the grain drill and following up with a harrow. With an ordinary summer, I would expect to get a good stand of clover. If the stock are kept off the ground while it is wet, on fairly good land we shall get from two to four tons per acre. The clover makes a better quality of hay if cut as early as it will do, and the second crop will then be much better, whether for pasture, hay or seed. When the clover is left standing until the stalks get hard, the second crop is not nearly so good and in a very dry season a stand of clover will be very much injured, if not totally destroyed. My rotation is a clover hay crop for two seasons, followed by one season of pasturing or cultivating, and seeding in grain. As a rule the less amount of grain seed to the acre that is sown the better stand of clover. Have the land in thoroughly good condition and sow plenty of clover seed to the acre. From nine to 12 pounds of clover seed to

the acre is required, and Oregon grown seed is preferred. The following spring a full crop can be cut, and if got off reasonably early a second crop can be cut for seed. Present prices of clover is \$10 per ton baled f. o. b. at nearest shipping point. The first crop on good land will reach three tons per acre. This year the seed crop will be light, owing to the long dry summer, but an average crop of seed is three to six bushels to the acre, worth from \$5 to \$6 per bushel. I estimate the cost of making the clover crop at \$4 per ton, baled and ready for shipment. This is an outside figure, where all the work is hired done. The expense of baling is \$1.50 to \$2 per ton, the farmer usually doing all the rest of the work and making the profit. Clover lasts two years. If you sow three to five pounds of timothy seed per acre with the clover, you will get a grass crop that stands five years. Clover on bottom lands can be cut for three years. Clover seed costs \$1 per bushel for hulling. Figuring three tons to the acre, and deducting \$6 for baling, would leave \$24. Add value of a crop of seed, and value of pasture and improvement in the fertility of the soil,

which will more than pay all cost of seed, wear and tear of machinery and fences. Clover should be cut in June, whether it has been pastured or not, to get a good quality of hay and maintain a good stand of clover for the next year.

### Loganberries.

(By A. M. LaFollett, Rt. 2, Gervais, Marion County, Oregon.)

The Loganberry is a successful and profitable crop in Marion county. I set out a lot four years ago and the following year I picked two 24-quart crates to the vine. The following year I had a crop from 260 2-year-old vines and about 250 1 year old. The crop brought me 423 crates. This year, 1904, I picked from 1250 vines about 600 crates, the dry summer cutting the yield down about one-third. My vines occupy one and one-third acres. My son has seven acres out, and all first year crop, and marketed 1523 crates. We got almost \$1.05 per crate for the crop, selling nearly all at Portland. The above price is f. o. b. at shipping point, by boat or express. The picking cost about 20 cent per crate, the fruit being easier gathered

than strawberries. The crates and boxes cost us about 13 cents. The net price in the market is about 70 cents to the grower. Plants are sold on the ground for \$30 per thousand. They are set out eight feet apart each way, and strung on four wires, No. 12 to 13, costing about \$25 an acre for wiring. The posts are set 32 feet apart along the rows, and it takes about 160 to 200 posts to the acre, costing about \$16 to \$20 per acre. Counting 600 plants to the acre, the cost of putting out Loganberries is about \$60 per acre, and so far there is no limit to the time a patch will last.

Cultivation is by plow and then with spring-tooth harrow. As soon as the fruit is off the old vines are cut and the new vines are trailed on the wires. The old vines are cut up with a disk harrow and plowed under. The Loganberry requires the very best soil and a well-drained location, but will stand a great deal of moisture in summer.

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