

Results of Underdrainage*

Wm. H. Day, O.A.C., Guelph

In the spring of 1909 the Department of Physics, which for several years has been making drainage surveys for farmers in all parts of the Province, wrote a large number of the men for whom surveys had been made in 1906, 1907, and 1908, asking them if they had put in any of the drains surveyed by the department, and, if so, to give their experience, paying special attention to cost of drains, difference in dates of seeding, difference in growing crops, and increase in yield. A few others who had done drainage in earlier years were also written to. Quotations from a few of their letters under their own names follow:

William Bell, Washago, Simcoe: "I drained eight acres you surveyed for me in 1907. It had produced nothing previously. Last year I grew a fairly good crop of oats on it, which yielded 33 bushels an acre. Following is a statement of outlay and results:

Cost of draining 8 acres, \$290.90—\$35.11 an acre, including a 6-inch main to drain other land as well as this.

Returns—33 bushels oats at 45 cents—\$15.80, nearly half cost of drainage, and straw yet to be accounted.

T. S. Higer, Manager, Walker Road, Walkerville, Essex: "On our drained land this year, 1909, we had 80 bushels of shelled corn an acre, while the undrained gave us only 56 bushels. Of oats we had 66 bushels on drained and 37 on undrained. In 1908 the drained land gave us twice as much as the undrained. We have tilled 87 acres this year, and purpose tilling much more next year."

J. H. Clare, Chatham, Hastings: "Fields that previously were unfit for crops at all can now be seeded on even date with high land; and, while before they grew nothing but coarse grass, now they yield per acre:

Hay—2 to 3 tons.

Barley—30 to 50 bushels.

Oats—40 to 100 bushels.

Corn—14 feet high.

James Clayton, Cedar Springs, Kent: "In 1901 I drained 8 acres, at a cost of \$112 or \$14 an acre; eight acres right across the fence was not drained. In 1902 both fields were sowed to beans; 8 acres drained land gave 302 bushels, which sold for \$456; 8 acres undrained land gave 34 bushels, which sold for \$37.

"Gain, \$419, nearly four times the cost of drainage."

Author's Note: This example shows the value of underdrainage in specialized agriculture.

"In 1903 both fields grew fall wheat. Eight acres drained gave 45 bushels an acre; 8 acres undrained gave 25 bushels per acre. Gain, 20 bushels of wheat an acre. 1904—There was drained land on both sides of that fence."

Nathan Day, Powel's Corners, Victoria: "I drained a 15-acre field some 15 years ago at a total cost of \$145, or \$14.50 an acre, the drains being four rods apart and 2½ feet deep. It was a muck soil from a foot to two feet deep, underlaid with a heavy clay. Before draining it was the wettest field on the farm, and would grow only hay and oats, and never was more than half a crop of them, and often not that, and was never sown before June. Since draining it is the second driest field we have and will grow a full crop of anything that can be grown on the high land of the farm. It has been sown in April every year but one since it was drained. The drains paid for themselves in two years. If I were draining the field again I would put a drain every two rods, for the crops are always better right over the drains than halfway between."

F. W. Huntley, Sutton, York: "We drained part of the land surveyed, and this year a fine crop of fall wheat is growing on land that formerly was counted too wet for anything but meadow."

William Lamb, Brantford, Brant: "I think underdrainage the best investment I can make on my farm."

Joseph Lapp, Cedar Grove, York: "I drained five acres, with drains 120 feet apart (120 rods on five acres). Drained another field, with drains 30 feet apart and 3 feet deep. In each case the gain in the first crop paid the full cost of the drainage."

"My general conclusion is this: Where drainage is at all required, its entire cost

will be repaid by the increase in the first two crops, but in most cases by the increase in the first crop alone. Our own experience is the latter."

A. Leach, Farm Manager for W. F. Maclean, M. P., Donalda, York: "The cedar swamp field south of the barn, which you surveyed, and which, as you will remember, was so wet, even in the driest part of the summer, that one could not walk on it without getting wet, was drained last fall; and this year, in spite of the heavy rains which delayed all spring farming operations, it was the driest field we had when we came to cultivate it, although much of our land is high and rolling. The crop sowed on it is coming on fine, and gives every indication of good, stiff, strong growth."

James Marshall, Hamilton, Wentworth: "In 15 years I have put in over 20 miles of drains on my farm, and my only regret is that I have not used more of my spare time and attention to complete the underdrainage and bring the whole farm into a better state of cultivation. In 1897 I drained a 12-acre field, at a cost of \$460, almost \$40 an acre, drains being 20 feet apart and 3 feet deep. The next year this field yielded 80 bushels of oats per acre, while the adjoining field of similar soil, but not drained, yielded only 42 bushels an acre, thus gaining 38 bushels of oats an acre by drainage."

Author's note: Value of 80 bushels at to-day's market price, \$30.

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