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Insuring Crop Yields

Continued from Page 7

Believing as I do that deep plowing is the very quintessence of dry farming, I am loath to leave this part of the discussion until I have approached it from another angle. I know it is a fact that the depth to which rainfall penetrates depends upon how deep the soil has been opened by plowing. Getting moisture into the soil and holding it there for future use is the great problem before the dry farmer. Now, this is a physical problem purely, and it takes power to do it; but when you once plow your land ten inches deep, it is easy thereafter. You cannot, however, hitch four or five light horses on a gang plow and go down nine or ten inches. It takes five 1400-pound horses on a sulky plow; and then if you plow two acres a day you are going some.

We know that the roots of cereals like wheat will go down four feet if they can. If you plow nine inches deep you will have a seed-bed probably sixteen inches deep; because when you plow deep enough you can hardly find where the furrow-slice ends and the subsoil begins. And sixteen inches is probably, in this country, feeding ground enough for the average cereal.

In the summer of 1910 after the crop began to die for lack of moisture, I made a trip of nearly a week over our region. I closely examined probably a hundred fields and in the average field you could gather a handful of straw and pull it up without effort. It was dead and dying. And I found in all those fields that a crust had formed, and the depth depended upon the depth of plowing. When the plowing was five inches deep, you would find the crust three and one-half or four inches down; where the plowing was six inches deep, it would be found about four and one-half inches down; but the deeper the plowing in all instances, the further down the crust was found. And where we found land plowed anything deeper than eight inches, we found practically no crust; but, on the contrary, the wheat was growing and prospering and made a crop.

I had some wheat that year that went 28 bushels and weighed 61 pounds to the bushel. My observation is that if the spell of drought is long enough, nothing can prevent a crust from forming on shallow plowing; and I believe that the time is fast approaching when eight inches will be considered shallow plowing. I should state that in all those fields I examined there was more or less moisture under the crust; in fact, I figure that it was the moisture under and the dryness above that helped to form the crust.

Capillarity

You might well ask the question here, "What about the law of capillarity? Why didn't capillarity work if there was moisture under the crust?" The answer to this is that, where there is a dry subsoil below, say four or five feet from the surface, the moisture has become so diffused or attenuated that the law of gravity seems to begin working against the law of capillarity and prevent the water rising. In other words, you never get enough moisture in the soil to prevent this crusting, unless you have opened up the ground deep enough so that the water can percolate down easily. I believe, too, from my own examinations and tests, that capillarity works rapidly after a good soaking rain.

In this connection I wish to state that I do not take as much stock in what capillarity does as some people. Of course, capillarity works up and down laterally; and if the subsoil is wet to the point of saturation I am sure it brings water up to the roots of the crops; but there is a point where the law of capillarity suspends operation, and I believe it takes more water from above to set it in operation again. Of course, the wetter your soil is and the deeper it is wet down, the less water it takes from above to set this machinery in motion and this is another argument in favor of deep plowing.

Now it may be that a long continued spell of dry weather will form a crust even on land plowed ten inches or a foot deep, but I have never found it. In 1911 there was no rain that wet down

an inch on my land from May 16 to July 19, and the land I did not get around to harrow, because of lack of time, dried down nearly five inches, and yet no crust was formed except on some land I had that was plowed too shallow. Nor did I have any land plowed like it ought to have been, or land on which I had intelligently applied dry farming principles, that was materially affected after two months of continued drought from the middle of May to past the middle of July.

In 1911 I had an eight-acre piece of potatoes, planted across an eighty-acre field. One side of the eighty-acre field had never been plowed over six inches deep, the balance of the land was plowed about ten inches deep in 1908. I raised a twenty-two bushel crop of wheat on it in 1909 and a sixty bushel crop of oats in 1910. I plowed across those two different plowings early in May, 1911, planted the same kind of potatoes on the same day and they got the same care and cultivation; and the deep-plowed land produced 185 bushels per acre, while the shallow-plowed land produced only 65 bushels per acre. In 1911, potatoes were selling for nearly a dollar a bushel, and the question is, did deep plowing and the extra work expended on the land properly handled pay? It certainly did.

CO-OPERATIVE POULTRY MARKETING

The Saskatchewan department of agriculture is constantly organizing new means to assist the farmers in every branch of their work. A recent development is the arrangement come to between the department, the poultry husbandry division of the college of agriculture and the Canadian Northern Railway whereby a poultry demonstration car is to be operated over certain of the C.N.R. lines. It has long been known that the price realized for dressed poultry at country points in the West has been very low and consequently little interest has been taken in poultry raising. There are several reasons for this low price, but chief among them is that farm-dressed poultry is seldom properly killed and bled so that it will not keep well in cold storage. The plan outlined by the department is to fit up a baggage car as a poultry receiving and killing station. Experts from the poultry husbandry division will be with the car to receive, grade and kill the birds and will also assist the farmers with the plucking. When the birds have been properly killed and graded, a representative of the co-operative organization branch will take delivery of them and make advance payments at prices in accord with their quality. When the birds have cooled they will be packed in boxes containing twelve birds each and shipped to Regina to be there sold or held in cold storage until market conditions are favorable. When all the birds are disposed of a final payment, returning to the producer every cent realized from the sale of his birds, less the cost of boxes, transportation and storage, will be made.

This practical demonstration should be extremely valuable if properly appreciated and all farmers along the lines to be visited should fit up what birds they have for sale, according to Prof. Herner's instructions in The Guide for September 22, and arrange to bring them in to town alive when the car is there.

The car will stop one day at each town and the places to be visited are as follows: Lloydminster, Oct. 25; Marshall, Oct. 26; Waseca, Oct. 27; Paynton, Oct. 28; Delmas, Oct. 29; Denholm, Oct. 30; Maymont, Nov. 1; Radisson, Nov. 2; Langham, Nov. 3; Clarkboro, Nov. 4; Vonda, Nov. 5; Dana, Nov. 6; Runnymede, Nov. 8; Kamsack, Nov. 9; Canora, Nov. 10; Buchanan, Nov. 11; Invermay, Nov. 12; Kuroki, Nov. 13; Wadena, Nov. 15; Quill Lake, Nov. 16; Watson, Nov. 17; St. Gregor, Nov. 18; Humboldt, Nov. 19 and 20; Alsask, Nov. 22; Marengo, Nov. 23; Pinkham, Nov. 24; Kindersley, Nov. 25; Netherhill, Nov. 26; D'Arcy, Nov. 27; McGee, Nov. 29; Rosetown, Nov. 30; Zealandia, Dec. 1; Tessier, Dec. 2; Delisle, Dec. 3.

Further information can be obtained by writing to the Director, Co-operative Organization, Department of Agriculture, Regina, Sask.

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