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A GOOD mulch, well made and cared for, is one of the prime necessities of good grain farming.

A very large proportion of prairie farmers do not know what a mulch is, and of those who do know, only a small proportion know what its real purpose is and what effect its maintenance has on the future crop, and just how and why and when it should be made and renewed.

When we mention the word mulch, the first thing that comes to our mind is the garden or orchard mulch which consists of half-rotted straw, litter leaves, etc., and the purpose of which is to protect, during the winter months, the roots of trees, bush fruits, strawberries, rhubarb, etc.

While this is the dictionary definition of a mulch, it is not the one I have in mind. The mulch of this article is the mulch of the one or two or five hundred acre wheat field. Such a mulch is not for winter but for summer use, and is not made of straw and leaves, but of the top few inches of loosened up dirt of the field itself.

One of the first requisites of successful farming throughout the prairie provinces is the careful conservation of moisture. Since time began, moisture has fallen on the earth in the form of rain and has soaked down into the soil by a process known as "percolation."

As soon as the storm is over, the moisture begins to climb back out of the soil by an entirely different process which is known as capillarity, or capillary attraction, or capillary action, which process is defined in the dictionary as "the power possessed by porous bodies of drawing up a fluid," and is the same process by which kerosene oil, for instance, climbs up the lamp wick to the flame.

: : The Mulch : :

By ERNEST BLAIR

It is by this process then that moisture reaches the surface of the ground and then it is dispersed into the air by another natural process that we call "evaporation." This evaporation goes on night and day incessantly. It is aided by sun and wind and stops only when the frost of winter seals up the land.

The purpose of our grain field mulch then is to prevent this evaporation, and to conserve in the soil the moisture that falls so

inch in depth was effective in retaining a great deal of moisture that was lost completely in a non-cultivated soil; also that a mulch four inches deep saved 72 per cent of the moisture, an eight-inch mulch saved 88 per cent and a 10-inch mulch practically stopped evaporation entirely.

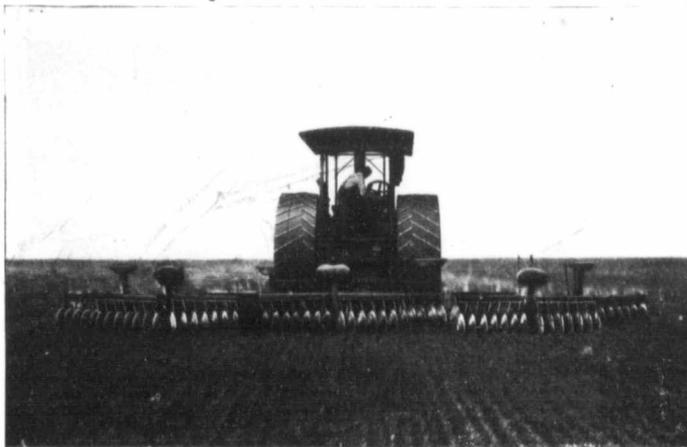
Obviously it is impossible and impracticable to spread a ten-inch layer of loose dirt over our summer-fallowed wheat land,

temperatures above the freezing point, it behooves us to keep our mulch or blanket spread during as many days and nights as possible.

Keeping this in mind we can readily agree that the best time to start our mulch is directly the binder has passed over the land, and if we have the needed power—if we have six extra horses and an inthrow and out-throw disk to work one behind the other, we have the ideal outfit for this kind of work—but how many of us have it?

Lacking the necessary power, it is impossible for us to disk directly behind the binder and once that opportunity is lost and our grain is stooked, it is practically impossible to disk at all until after threshing, unless we stack our grain—a practice that is growing in favor out here in a great many places.

The land, once cleared of grain, however, should be either double disked or fall-plowed as soon as possible. The cultivating of the ground in the fall will serve a double purpose; it will cover up millions of weed seeds that will germinate and be killed by the winter's frost, and it will conserve any moisture that may be in the soil besides putting the land in better shape to retain any moisture that may subsequently



A Big Job Being Thoroughly Done

that this moisture can be drawn on in time of need by the growing plant. As far as possible the prairie farmer in this dry country should "grow next year's grain on this year's rain." The mulch that we make and use, then, to conserve this moisture is the top three or four inches of soil that is stirred and loosened when the harrows pass over the ground. Those three or four inches of dirt dry out and the result is a blanket that prevents the upward movement of water.

It was found by experiment that a soil mulch only one-half

and anyway, further experiments proved that a mulch from 2½ to 4 inches deep was the most easily and economically produced, and saved the greatest amount of moisture in proportion to its cost, etc.

We have found, then, that a mulch is a three-inch layer or blanket of loose dry earth spread over our field of summer fallow and that its first purpose is to protect that field from the evaporating influences of wind and sun.

As evaporation is constant, is going on in practically all tem-

peratures

On the opening of spring our first concern should be to re-establish our mulch as soon as possible, so as to prevent the inevitable evaporation, and to put the land in better shape for plowing. If lack of time or power has prevented us from disking in the fall then we should disk that portion of our land that we intend to summer fallow in the spring and disk it just as early as we possibly can. This cultivation will start weed seeds growing that they may be plowed under and destroyed; will conserve the pre-