

measure a beneficial one. The Omaha Trade Exhibit calls attention to the fact that the new system has been in force four months, and wants to know if any retail merchant has been hurt by it. The question in itself is significant, for everyone knows that if a retailer had been hurt by it, he would have let the world know about it. The "New England Grocer" catering to the wants of retail merchants, has the following to say:

"The only retail merchant who has been hurt by it is the one who has failed to take advantage of his opportunities, and his hurt consists of lost opportunities due to his own lack of intelligence. If we were to call for a showing of hands in New England by all those retailers who can give instances where the parcels post has been detrimental to their interests, we imagine that no hands would be raised very high."

It would look therefore, as if the opposition from the retailers was over-estimated. The parcels post is bound to come, and while it may cause some minor inconveniences to certain business men, it will prove beneficial to the vast majority. It should certainly prove a big factor in reducing the cost of living, as it will bring the producer and consumer nearer together by eliminating a certain number of middlemen.

CONQUERING THE SOUTH AFRICAN DESERT.

Dry Farming and Rainless Wheat.

By W. E. DOWDING

Dr. William Macdonald, D.Sc., the head of the Department of Agriculture in the Union of South Africa, is keeping very much in the front his advocacy of dry-farming for that country. He contributes to the current number of the "Nineteenth Century" a very useful article on this last and most daring achievement of the agriculturalist, the Conquest of the Desert. Drought, to the intelligent dry-farmer, has now become no more than a passing storm to the skilful mariner at sea. The very instructive examples of what has been already done in this direction, both of them drawn from the North American continent, are to be found in the authentic records of two farms, taken from the admirable work on Dry-farming of perhaps the greatest American authority, Dr. John H. Widstoe, of Utah.

The first record is furnished by the Government Experimental Farm at Indian Head in Saskatchewan. Extending over a period of nineteen years, a time sufficiently long to cover

every variation of the seasons, it is found that not a single crop failure is recorded. During this period the rainfall, as apart from the snowfall (which gave at most 2.3 in. of water annually), varied from 3.9 to 20.22 inches.

The second, equally conclusive, is that of the farm belonging to Senator Barnes of Utah, situated in the Salt Lake Valley. Here, over an equal period of time, there has been one crop failure, that of the first year when the land had not been scientifically tilled. The heaviest crop of wheat, 28.9 bushels to the acre, was in 1902 when there occurred the next to the lowest rainfall. The latter has varied from 10.33in. to 18.46in. The climate of Utah is semi-arid, with excessively dry summers and a very large co-efficient of evaporation.

To farmers of section on the grain belt, the statement that desert regions are above others suited to dry farming may seem to be exaggerated if it is not to be regarded as totally untrue, yet such has been proved to be the case. Speaking generally, desert lands are deep lands enjoying an almost inexhaustible fertility, in the depth of which the scanty rainfall can be stored up over a long period, and though arid soils are usually poor in humus, they are much richer in nitrogen than the soils of less dry regions. The principles of dry-farming can be reduced to three in number (1) Drilling, (2) Reduction of seed, (3) Absence of weed. As Jethro Tull, the English agriculturalist called by Dr. Macdonald the "Founder of the Principles of Dry-Farming," put it, "Tillage is Manure." The principles adopted by Dr. Macdonald in his experimental work on the Government Dry-Land Station at Lichtenburg in the Transvaal, are thus expressed: (1) Deep ploughing; (2) pure seed; (3) thin seeding; (4) drilling; (5) frequent harrowing; (6) weedless lands; (7) few varieties; (8) Moisture-Saving fallows.

Of these principles the most important and the one to which Dr. Macdonald attributes the success of his experiments is that of the Moisture-Saving fallows. In dry climates the supreme need is not fertility—Nature sees to that—but moisture, and for this reason the aim of the cultivator should be to establish a moisture saving fallow which must be maintained over periods varying from three to twelve months according to the necessities of each individual case. Ploughed deeply in the first instance, the fallow is kept constantly tilled to prevent evaporation through formation of a soil crust.

The result of such treatment is that the rainfall is kept stored up in the undersoil, weeds have no chance of robbing the water store, and the land is healthily aerated and sunned. By frequently stirring the surface of