

The Soil and the Seed

By Seager Wheeler, Rosthern, Sask.

The Secret of Success in Farm Operations is in Doing the Right Thing
in the Right Place at the Right Time



Head row plots, 1914. Special selected strains of Marquis wheat, grown by Seager Wheeler, Rosthern, Sask. Compare with photo of 1913 crop.



Special selected strains of Marquis wheat, 1913.

The coming season will undoubtedly exert a big influence on the standing of the farmers of Western Canada for good or bad, financially and otherwise. Big, bumper crops all over the West will pull many a struggling farmer out of his difficulties, will benefit the country at large, and will help to feed many that may be hungry in Europe next winter. This being the case, it will be well for each and all of us to pay more attention to the seed and seed bed than usual. Many farmers experienced failure last season when they might have reaped a fair amount of success if they had only used a little forethought and concentrated their energies in the right direction.

Probably, if we got down to hard facts we might find that the failure to grow a good crop last season was not due altogether to a want of rain or the unusually hot and dry season, but principally because no proper preparation was made to counteract these conditions.

Comparisons are odious, and I do not care to refer to my own case and results of the past season, but it fits in so well that I feel justified in referring to it. I may say that the past season of 1914 was one of the most satisfactory for some seasons past, especially considering the unfavorable conditions of heat and drought. All crops did remarkably well. Wheat averaged thirty bushels per acre on fallow, fall plowing and spring plowing, excepting one field fall plowed, sown to Prelude wheat which yielded eighteen bushels per acre. Seed plots of Marquis wheat yielded fifty and forty-four bushels per acre. Spring plowed land sown to Victory oats yielded eighty and seventy-eight bushels per acre. Barley did well. Potatoes gave the heaviest crop of large, uniform tubers I have ever grown. Many hills weighed ten pounds each, single tubers weighing three pounds and three pounds ten ounces each. In a two hundred bushel crop there was not one whole bag of small potatoes. Alfalfa did well. Clover exceptionally well. Brome grass for seed was shoulder high. I had corn that matured. Some alfalfa plants for seed grew six feet tall and had to be staked. Small special plots of wheat grew the largest and heaviest heads I have yet seen, and were four to five feet tall. Many of these wheats matured as early as July 26 and August 5, while not a single crop failed.

Reasons for Success

Now what are the lessons therein? Not because we did not lack rain as less than two inches fell from the end of May until after harvest. If we go to the root of the matter, we find that it was not because of any special pre-

paration of the seed bed or seed of 1914, altho this was done, but the work of previous years also exerted a good influence. The work has been planned and carried out systematically each season. Careful preparation has been made of the soil and the seed, and any reader who follows this article carefully, working along similar lines as closely as possible, may reasonably avoid a crop failure as in the past season of 1914. If any reader profits thereby I shall feel more than repaid for the effort of penning this article in which care has been taken that no false steps may be suggested that may lead to bad results. It is a rather difficult matter to lay down any hard and fast rule as to the exact method to be adopted, but the methods should be followed as closely as possible, because they have proven successful in my own case. The principles of agriculture remain true

this is done well and properly, good results may obtain. An old saying that "God helps them that help themselves" also applies here. Nature is kind and will help the man who follows closely her teachings.

I firmly believe that instead of writing and telling farmers how to plow, pack, harrow the land, or which is the best method, this or that, it would be well to impress on the mind of each something of the principles of agriculture; namely, that before seed will germinate, grow and develop into a strong, healthy, vigorous, productive plant, it is essential to provide heat, air and moisture, that these are necessary, and must be in right proportion, that a seed bed may have one, or more, or all of these essentials and yet the plant will suffer. Too much heat, too much air and even too much moisture will cause the plant to sicken and fail. A properly

not wasted or lost, because if conditions are favorable it is developing a good root system. These plants are stronger and healthier than those from seed sown a month or six weeks later, as then the soil and air is warmer, and the seed comes up sometimes in three or four days. The top growth is too excessive at the expense of the root system and does not stool so freely or make as strong and vigorous a plant as that sown early in the season.

Summer-fallowed land usually has sufficient moisture after the snow and frost leave in the spring, but sometimes has not air and heat. To bring about the proper proportions of moisture, air, and heat, it is a good practice to harrow the fallow before seeding. This operation aerates and warms the seed bed. Since wheat will not germinate at a temperature lower than 40 degrees Fahrenheit, and as often the soil is at a lower temperature than this, nothing is gained by seeding too soon. The time spent in harrowing is not wasted, as it also stirs the soil and allows of better penetration of the seeder. Many crops are sown too shallow because the soil is too compacted and does not allow the seeder to penetrate deep enough. We cannot have the root bed too compact, but it is necessary that the seed bed, to about two inches, be loose, near the surface. This looseness or mulch created by the harrow and seeding operations makes the mulch necessary to prevent evaporation of moisture from the root bed below the mulch.

Having harrowed the land, I can recommend the use of the plank drag. This plank drag is made of two by four plank, placed on edge, three feet apart, held firmly in position by cross pieces and boards nailed across to stand on. The drag is drawn at an angle of about forty-eight degrees. This drag should not be pulled straight. Drawn at a slight angle the drag shaves the surface of the soil and pulls down the high spots, fills the low spots and makes a uniform level surface of the seed bed.

Uniformity Essential

Now I am very particular to have uniformity. Uniformity of the soil, the seed bed, and the seed. This allows the seeder to deposit the seed at a uniform depth, will encourage uniform germination, uniform growth, uniform ripening, uniform quality of the crop, uniform surface for the binder to operate upon, making uniform sheaves, etc.

Any land that is made so uniform will allow the wheeled plow to plow at a uniform depth and turn a uniform furrow, allow every implement to work the land uniformly and each successive season the benefits of this plank dragging will be seen, making it easier each year for the teams to work the land.



Victory oats, sown on spring plowed land seven inches deep. Yield eighty bushels per acre.

and unalterable, altho the method to apply them may be varied to suit each district.

The Soil

There are many methods that are followed in cropping to the small grains. With many it is a hit and miss system, trusting a great deal to chance and to a normal season of abundant rainfall. Usually we have one dry period and critical stage in the plant growth, and if a rain comes along just at the right time it turns out all right, but in many cases it happens that this critical stage is too much for the crop that it seldom recovers properly or satisfactorily. As we are unable to foretell just what the season may bring, it is essential that we do our part in the preparation of the seed bed and the seed, and if

prepared seed bed will have the right proportion and it is in the power of each and all of us to prepare such a seed bed, and when we have the principles thoroughly rooted and grounded on our minds we may adopt this method or that method to bring about the required condition.

The Summer-fallow

Presuming that this is ready and in condition to sow in the spring, many farmers will follow the common system of rushing the seeder on the land early, in order to have it mature early and in season. If the spring is wet and cold the seed that is sown, especially if not of strong vitality, rots and dies, because the soil is too wet and cold. It usually takes three weeks to one month before it shows above ground. All this time is