

EXPERIMENTAL STATION, LETHBRIDGE, ALTA.

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SEASONAL CONDITIONS.

The season of 1913 opened at about the usual time for the district. Winter grain, however, suffered, many areas in the winter wheat fields being badly injured owing to the high dry winds that prevailed. Spring seeding commenced early in April, germination was rapid and a good stand was obtained in all cases. The rainfall during the spring was scant, especially during late May and early June. Crops of all kinds suffered acutely, particularly early-sown grain. The rainfall, from late June on, was reasonably satisfactory. The late rain, however, stimulated a second growth which caused uneven ripening and thus materially reduced the yield and quality of both wheat and barley. The result with oats was better, the second growth being so strong and vigorous that it reached maturity before any serious loss was suffered from the shelling of the first growth.

CROP YIELDS.

On the dry land the yields of hay were very light. Brome grass produced only 1,580 pounds, and western rye grass 1,160 pounds per acre. Alfalfa sown broadcast yielded only 1,481 pounds per acre whereas alfalfa sown in rows yielded about double this amount. It would appear, therefore, that for hay as well as for seed purposes it will pay to sow this crop in rows far enough apart to permit of cultivation.

On the irrigated land the average yield of hay was between 4 and 5 tons per acre, this being slightly below the average for the past five or six years.

ROTATION OF CROPS.

Space will not here permit of a full explanation of the various rotations under test at this Station, but, as showing the advantage of certain successions of crops, the following results may be pointed out:—

1. Wheat following corn yielded as well as wheat after summer-fallow, and much better than wheat following turnips. The latter difference is no doubt due to the fact that the roots made considerable growth in the fall thereby using up moisture, whereas the corn ceased growth with the first frost.
2. A good profit was obtained from alfalfa seed when the crop was planted in rows and intertilled.
3. Heavy yields of oats and peas, grown for feed, were obtained when sown on summer-fallow.
4. With irrigation, the yield of spring wheat was over 52 bushels per acre, following potatoes.
5. With irrigation, potatoes planted on alfalfa soil gave a yield of 635 bushels 30 pounds per acre.

RATES OF SEEDING.

Tests to determine the correct quantity of wheat, oats and barley to sow have now been conducted for five and, in some cases, six years. Each of the above grains has been seeded at the rates of fifteen, thirty, forty-five, sixty, seventy-five, ninety, one hundred and five and one hundred and twenty pounds per acre. The preparation of the land in nearly all cases, each year, was summer-fallow.