

Department of Agriculture, Division of Live-stock and Agriculture.
Dunedin, 22nd March, 1909.

Chief Inspector of Stock, Wellington.

Re Irrigation in Central Otago.

RE your wire of 13th instant, "Where would Inspector Bruce and Mr. Dobson recommend experiments being made, and to what extent, for testing purposes?"—

After making a further inspection, and going fully into the question of water-supply, Mr. Dobson and I are of opinion that the Clyde racecourse would be very suitable for testing purposes, and for more convenient reference I quote from my report *re* same: "I consider this an ideal field for experimental work, being quite close to Clyde Railway-station. It contains about 100 acres, more or less, of fairly good land, somewhat deficient in humus, but admirably adapted for experimental irrigation. Taken in conjunction with the adjoining land, which is considerably lighter, being similar to other areas in Central Otago, notably the Cromwell Flat, it should assist in determining whether irrigation could be profitably adopted or not. I should recommend for your consideration the practicability of obtaining a sufficient water-supply for experimental purposes on this block. Adjoining the Clyde racecourse there is a holding of some 60 acres which, I am informed, has been under irrigation for about forty years. On the best of the soil the results appear to have been highly satisfactory, but it is observable that on reaching the lighter soil the water disappears. Possibly the experimental work may demonstrate that the cultivation and ploughing-down of leguminous crops would aid nitrification, and thus extend the irrigable area."

The area recommended contains about 280 acres, which could be extended if necessary. When in that district we learned that the Alexandra Borough Council would, on the completion of its water-supply from another source, probably be in a position to supply water from its Chatto Creek race. After visiting this race, ascertaining its capacity, and the possibilities of its commanding the area referred to, we interviewed the Mayor of Alexandra, who informed us that immediately the new works are completed his Council would be pleased to enter into negotiations for the leasing of three sluice-heads of water for irrigation purposes. The obtaining of water from this source would obviate the necessity for much expenditure in building reservoirs, constructing expensive water-races, &c., and has therefore much to commend it. A short race of perhaps two or three miles in length would convey water from the Chatto Creek race, and we recommend that a survey be made of the locality before negotiations are entered into. There is every reason to believe that fruit, tomatoes, &c., could be profitably cultivated on the greater portion of this land, while if experimental work is extended to the poorer and shingly portions, and conducted as suggested, the capabilities of similar areas, notably Cromwell and Earnscliffe Flat, concerning which different opinions will doubtless be expressed, would be demonstrated. With a view to testing the larger areas for agricultural purposes, we revisited the upper end of Ida Valley, principally to ascertain whether water could be obtained from the Bonanza Race, owned by the Mines Department. After making inquiries we found that there was little likelihood of obtaining sufficient, if any, water from this source. In any case the success of irrigation on this class of land has already been sufficiently demonstrated, and, furthermore, its isolated position would render experimental farming undesirable. With a view to conducting agricultural experiments in Central Otago, instead of undertaking any costly scheme to provide water for experimental irrigation, we would suggest co-operation with some farmer owning suitable land with water-rights, and there conduct field experiments, both irrigation and dry farming.

Observation leads us to the conclusion that there is much to be learned with respect to dry farming in Central Otago, and if the process were thoroughly investigated and demonstrated, it might to some extent supersede the present agitation for costly irrigation-works.

We are also of opinion that the question of obtaining artesian water from the lower strata of Central Otago is worthy of consideration.

J. L. BRUCE,
J. H. DOBSON.

Department of Agriculture
(from the Inspector in charge of the Otago Districts),
Dunedin, 22nd January, 1909.

E. Clifton, Esq., Chief Inspector of Stock
and Director of Experimental Farms, Wellington.

Irrigation of Central Otago.

IN response to your memorandum of the 4th September requesting me to locate the areas of agricultural land in Central Otago which could be profitably irrigated, I have now the honour to submit the following report:—

Fully recognising the importance of irrigation not only to the arid districts directly, but ultimately to the State, and the responsibility unreservedly intrusted to my individual judgment, I decided to approach this subject purely from a commercial standpoint, it being no part of my duty either to extol or decry the land beyond concisely stating the qualities pertaining to the several blocks inspected.

I was accompanied throughout the inspection by Mr. J. H. Dobson, engineer in charge of the irrigation surveys in Central Otago, who rendered valuable assistance not only in the field, but by computing the areas located by me, in addition to defining and illustrating same on the map which accompanies this.