result was a stimulus to agriculture and the raising of fat cattle. Wheat, which was selling at 6s. per bushel in Christchurch in 1861, rose to 8s. 8d. in 1864, oats rose to 5s. 7½d. in 1863, and in the same year beef reached 53s. per hundredweight. Wheat acreages did not rise very much over the 3 years 1861-1864 (from 12,785 acres to 13,328 acres), but during the period of the west coast gold rushes it more than doubled (from 13,328 acres in 1864 to 26,683 acres in 1867). The Maori Wars, too, created a demand in the North Island both as a result of army purchases and the general disruption of farming. Driving cattle to the west coast was a most profitable business, John Grigg of Longbeach being one of the largest suppliers.

During the 1850's agriculture in Canterbury was still in the "manpower" stage, the methods and implements used being simple, with sowing, reaping, and threshing being done by hand as they had been in Europe for centuries. On the Deans farm at Riccarton a "Bell's Improved" reaping machine was introduced in 1856. It was a cumbersome affair pushed by two horses and had been developed in England about 30 years before. Ploughs were a single-furrow swing type, usually a Barrowman or a Grey, and by 1860 there were estimated to be about 250 in Canterbury. Much of the plains must have been broken in by these ploughs pulled by a slow and awkward team of bullocks.

Sowing was usually done by hand, a skilled man being able to cover 25 acres a day. Wheat sown broadcast on well-made furrows and given one stroke of the harrows came up in rows as straight as those made by a drill. A seed drill was first imported into Canterbury in 1853, but drills do not seem to have been popular until an American corn drill was introduced over 20 years later.

Up to 1860, apart from what was done by the Deanses' machine, reaping was done by scythe and sickle; in 1859 a Burgess and Key reaping machine was imported, and at the time it marked a very great advance on the old hand methods, even though the crop still had to be gathered by hand

Besides the use of the primitive flail, threshing was done by simple horsedriven machines, the horse being driven around a capstan which worked a revolving drum; one of the first of these machines was imported in 1850. In 1865 a 6 h.p. steam engine was imported and started work near Prebbleton, a charge of 9d. per bushel being made for threshing; a steam engine was at work near Kaiapoi about the same time. This was a very marked reduction in current rates and can be taken as the real beginning of mechanisation of farming in Canterbury.

## Development of Mechanisation

From 1870 onward mechanisation made rapid progress with the coming into use of double-furrow ploughs, reapers and wire binders, the grain drill, and the traction engine. These innovations, along with the extension of the railways and the bridging of the rivers, made possible the great expansion of wheat growing from 1870 to 1880 which so changed the face of the plains and the style of farming. With the opening of the



The land district of Canterbury, a roughly rectangular area about 200 miles long and 70 miles wide, occupies the central portion of the east coast of the South Island and extends from the Conway River in the north to the Waitaki River in the south and from the sea in the east to the main divide of the Southern Alps in the west.

Lyttelton tunnel in 1867 and the gradual advance of the railway southward, wheat production became more profitable, and about the same time a fall in wool prices discouraged farmers and squatters from leaving their best land any longer in tussocks.

Small farmers moved south to around Ashburton and also established themselves around Temuka and Winchester, with a few near Waimate. Sometimes special settlements grew up, such as that of the Irish tunnel workers at Loburn, near Rangiora, who cultivated their modest lots in the manner to which they were accustomed in Ireland and eked out a very frugal existence. But the English and sometimes the Scotch farmers who were taking up land in the plains possessed a much longer tradition of good farming practice, and some of the best-known families in Canterbury farming today first established themselves in the late 1850's and early 1860's.

## THE SQUATTERS' INVASION

The Canterbury block consisted of 2,500,000 acres lying between the Waipara and Ashburton Rivers and extending back from the sea to the mountain ranges, but up to the arrival of the Pilgrims not very much thought

had been given to the manner in which it would be used. Though it was natural for the Pilgrims to purchase lots of rural land close to the organised settlement, they were in fact discouraged from dispersing, for the pasturage regulation provided that 20s. for each 100 acres had to be paid, and in addition the licences over any of this pasturage gave no automatic right of purchase and no security for any improvements which might be effected on the land.

Extension of settlement is referred to as follows in the "Canterbury Almanac" (1854): "Early in the year [1853] some of the newly-arrived colonists from England located themselves on the banks of the rivers Courtenay [Waimakariri] and Cam near the native village of Kaiapoi. This promises to become a position of some importance."

This then was the position for a short period after the arrival of the Pilgrims; a relatively small compact settled area around Christchurch, with a large area of nearly 2,500,000 acres stretching north to the Waipara River and south to the Ashburton River unoccupied except for a few settlers who had taken up land before the Pilgrims' arrival, such as Captain Mitchell of Mt. Grey and the Banks Peninsula settlers comprising the French at