

“ Under instructions from the Director, Mr. E. Clifton, to make selections from Algerian, Argentina, and Red Rust-proof oats, in order to discover if a more highly rust-resistant oat could be obtained—these three varieties being less affected by rust than the remaining twenty-four varieties tested at Ruakura in the 1908 season—the work of selecting oats for rust-resistance was initiated. A previous attempt had been made to select for increased yield, but the result was nugatory, owing to all the varieties under test being rendered useless through rust. It was this experience that caused attention to be directed to selection for rust-resistance. In December, 1908, 1,050 single-head selections of the above three types were made, and were sown on the 15th September, 1909. Of these selections only seven were retained for continuance at the harvest on the 8th January, 1910. The seven selections were again sown separately, and out of these the foundation of the present strain, known as Ruakura Rust-resistant, was chosen. All along this one exhibited the strongest powers of rust-resistance.

“ The crop from the single head reaped on the 2nd January, 1910, gave a yield of 376 heads, weighing, with 2 ft. of stem attached, 4 lb. 6 oz. The next year's test took the form of sowing half of this quantity and surrounding it with Tartar King oat, the most susceptible variety to rust at Ruakura. The remaining half of the 376 heads were reserved in case of a bad season destroying the selection sown. The sheaf of these heads is here illustrated. The following season seed-samples were distributed for testing in other districts, and the remainder of the seed, 12 lb., was sown on the 8th September, 1911, the resulting crop, harvested on the 23rd January, 1912, giving a yield of $16\frac{1}{2}$ bushels. This was sufficient to sow 5 acres this year, not counting the grain contained in eight sheaves reserved for shows and 4 bushels distributed to other experimental farms and the Fields Instructors. From the 5 acres 90 bushels of firsts and 9 bushels of seconds per acre have been obtained.

“ It has never been claimed that the new oat is absolutely rust-proof. What can be claimed is that it is the most resistant to disease of all the varieties tested at Ruakura.”



HALF OF THE ORIGINAL 376 HEADS