

WHEAT.

The following quantities of machine-dressed seed wheat were purchased, sealed, and tagged, and sold to merchants in the 1929-30 season, the figures for the 1928-29 season also being given :—

| Variety. | 1929-30. Bushels. | 1928-29. Bushels. |
|----------------------------|----------------------|----------------------|
| Solid-straw Tuscan | 11,006 | 7,119 |
| Hunter's | 4,160 | 4,563 |
| Velvet | 216 | .. |
| Dreadnought | 220 | .. |
| Marquis | 400 | .. |
| Solid-straw Velvet | 213 | .. |
| Yeoman | 36 | .. |
| Totals | 16,251 | 11,682 |

Alterations in the wheat-certification organization for the current season have been such as to place the scheme on a similar footing to other certification. The Wheat Research Institute will not again purchase seed at a fixed premium over ordinary milling-wheat. Instead merchants will receive samples of farmers' dressed lines which have come up to the standards set, and business will be done by them direct with the growers.

Secondly, fixed standards for the field inspection have been introduced—namely, a minimum of 99·8 per cent. varietal purity, and a minimum of 99·8 per cent. of heads free from loose or stinking smuts. These standards were such as to exclude practically all Solid-straw Tuscan crops, but, in spite of this, it was considered advisable to adhere to the standard rather than to relax and allow more crops through.

The following figures show the number of areas and the acreage entered and passed in the field. (Note.—Figures in parentheses are acreages passed in the 1929-30 season):—

| Variety. | Number of Areas inspected. | Acreage inspected. | Number of Areas passed. | Acreage passed. |
|-----------------------------|-------------------------------|--------------------|----------------------------|-----------------|
| Solid-straw Tuscan | 76 | 2,178 | 9 | 129 (490) |
| Hunter's | 44 | 894 | 8 | 139 (190) |
| Velvet | 6 | 85 | 3 | 28 (5) |
| Dreadnought | 2 | 13 | 2 | 13 (5) |
| Marquis | 2 | 36 | 2 | 36 (20) |
| Solid-straw Velvet | 1 | 16 | 1 | 16 (5) |
| Garnet | 2 | 24 | 1 | 12 (20) |
| Yeoman | 1 | 12 | 1 | 12 (1) |
| Purple-straw Tuscan | 1 | 14 | .. | .. |
| Major | 1 | 17 | .. | .. |
| Totals | 136 | 3,289 | 27 | 385 (736) |

BEANS.

Following upon a report submitted by the Mycologist drawing attention to the presence of bacterial wilt in the bean crops of Marlborough, arrangements were immediately made for the certification of bean crops grown for seed-production. The scheme operated on the current season's harvest, and the following areas have been inspected in the field :—

| Variety. | Passed. | | Rejected. | |
|-------------------------|---------------------|----------|---------------------|----------|
| | Number of Areas. | Acreage. | Number of Areas. | Acreage. |
| Canadian Wonder | 39 | 126 | 22 | 119 |
| Butter | 16 | 56 | 1 | 2 |
| Miscellaneous | 15 | 23 | 1 | 3 |
| Totals | 70 | 205 | 24 | 124 |

Next season only those crops which have been sown with certified seed will be eligible for entry into certification.

3. MISCELLANEOUS TRIALS.

RAPE.

Nothing very much is known regarding the strains of rape used in New Zealand. That variations exist is evident from reports received from growers regarding the variable palatability and fattening qualities of rape. A preliminary trial was laid down this season with a view to studying the types and to determine whether further investigation was warranted. Seed was collected from merchants throughout New Zealand and thirty-three lines placed under trial. Seed was sown in the nursery and forty-four plants from each line transplanted 30 in. apart each way. Thus each plant had ample opportunity for full development. Subsequent investigation revealed the fact that ten of the thirty-three lines were of mixed types, and were eliminated. The remaining twenty-three lines could be classified into three as follows :—

- Type 1 : Giant form or French rape represented by seven lines.
- Type 2 : Dense-crowned Dutch rape represented by twelve lines.
- Type 3 : Open-crowned procumbent and blue-green leaf, represented by four lines.

The trial was divided laterally into four blocks—A, B, C, and D. Block A was cut back hard representing a severe grazing. Block B was cut back lightly representing a light grazing. Block C missed the first cutting and represented a light grazing taken when the plants were well past the stage at which they might have been utilized. Block D has been left for observation. Interesting evidence is being secured as to the behaviour of these types, but results are not yet completed and will form the subject of a later report. There are, however, distinct differences in recovery and general behaviour.

With regard to the rape investigations, certain plants from the most homozygous lines have been marked for seed production.