

(4) A black oat, name unknown. This might easily be mistaken for a variety of *A. sativa* or true Wild Oats which it more closely resembles than any other False Wild Oats that I know of. It may be separated from the Wild Oats by the following features: Plant fully six inches shorter; stem stouter in proportion; pedicles not so long, giving the whole head a more compact and upright appearance; seeds dark as in *sativa* but less hairy especially round the scar, also stouter and more distinctly ribbed. This form has grown true to type for two years.

(5) Storm King type. Two examples grown for four and seven years respectively. No change.

The first four of the above mentioned varieties belong to the *sativa* (spreading panicle) form of growth, the last to the *Orientalis* (side oats) type.

In addition to these I received from Mr. A. Cooper of Treesbank, Man., some examples of Banner oats grown on land free from Wild Oats and supposedly from pure seed, showing a tendency in the direction of the wild type, having a rather more open basal ear and larger awn than is usual in the cultivated form. The first year these were grown about two per cent developed into fully formed False Wild Oats while a majority of the others remained as before. A certain number, however, developed stronger awns while others became entirely awnless. The more developed oats were again sown in 1911 and produced about 20% of False Wild Oats, some 40% of the long awned kinds and the remainder either with no awns or with the usual weak ones generally found on the primary oat on the upper grains in the head. Some of the original seed was also sown and showed less than one per cent of False Wild Oats but produced instead a dwarf type not above six inches in height which though developing sufficiently to reveal the usual long awns of False Wild Oat failed to produce germinable seeds. The proportion of plants of this kind amounted to nearly one per cent.

### Distinguishing Characters of True and False Wild Oats.

The problem of distinguishing a true Wild Oat from a False Wild Oat is an important one from the farmer's standpoint. In the growing stage this is a comparatively simple matter as the False Wild Oat will have the manner of growth characteristic of a cultivated oat, in contrast to that of the Wild Oat previously described, but in the seed form the difficulty is much greater, and there seems to be no fixed character by which to distinguish between some of the smaller varieties of False Wild Oats and the true wild forms. With the larger sorts now grown so extensively the difficulty of distinguishing them is not so great, and an experienced eye will at once detect the False Wild Oat by its larger size and its usually close resemblance to the cultivated variety in which it is found. Generally speaking too the lemma or outer seed coat is more open in front with cultivated forms and False Wild Oats so that the palea or inner coat is broadly visible whereas in Wild Oats the edges of the lemma almost meet. There are, however, some exceptions to this rule. The seeds of False Wild Oats carefully picked will show the very characteristics of true Wild Oats, though somewhat less pronounced in most cases, but will mostly correspond with the cultivated variety in which they appear in size, plumpness, color and smoothness of the glumes.

### Difference in Germinating Qualities.

Germination tests will also reveal the nature of an oat if recently ripened owing to the readiness with which False Wild Oats grow in comparison with true Wild Oats but unless at least one hundred seeds are tested the result will not be satisfactory. One of the worst traits in *Avena sativa*, true Wild Oats, is the