VARIATIONS IN THE DORMANCY OF SEEDS OF
THE WILD OAT, *AVENA FATUA*

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It has long been recognized that seeds of the common wild oat (*Avena fatua*) are characterized by dormancy, which may persist for an extended period following maturity. Zade (12) and Atwood (2) have mentioned the very low germination of seed of *A. fatua* when freshly harvested and state that germinability gradually increases after the seed has been in storage for several months. Garber and Quisenberry (7) and Johnson (8) have mentioned the variability in germination of the seed from different plants. Lute (11) called attention to the regional variation in germination of seed of *A. fatua* and suggested that the generally accepted belief that wild oats may be distinguished by their dormancy at harvest is not well founded because of the almost complete lack of dormancy of some lots. Deming and Robertson (6), Larson, Harvey, and Larson (10), and Coffman and Stanton (3) conducted tests which showed that considerable dormancy is found in some varieties of the cultivated oats when freshly harvested. The latter (4) found also that the germinability of fatuoids, or the false wild oat forms occurring in cultivated varieties, appeared to be similar for that character to the varieties in which each was found.

Several workers (2, 7, 8, 11) have shown that germination of *Avena fatua* is increased by breaking the seed coat. Atwood (2) and Johnson (8) demonstrated the beneficial effect of increased oxygen concentration during germination, and Johnson (8) obtained a distinctly beneficial effect from soaking the seeds in 1 to 2% of KNO₃ for 24 hours, and some benefit from freezing the seed. However, none of these treatments has resulted in the complete or prompt germination of freshly harvested seed of *A. fatua*.

Unpublished results obtained from the study of *Avena fatua* plants in the greenhouse indicate that a marked variation existed in the promptness of germination of seed collected in different sections of the

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3Reference by number is to "Literature Cited", p. 638.