DEHISCENCE OF THE FLAX BOLL

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In a study of flax varieties for the purpose of classification, the writer has observed that three major types of flax bolls can be distinguished readily according to the nature of their dehiscence. In the first type, *Linum usitatissimum crepitans* Boningh, the bolls are completely dehiscent, the segments separating widely and scattering the seeds as soon as the boll is ripe. In the second type, which includes practically all varieties grown commonly for seed or fiber in the United States, the bolls are semi-dehiscent when the plants are ripe, i.e., the boll opens at the apex and the five segments separate slightly along their margins. It is rarely, however, that the bolls of this type dehisce so far as to allow the seeds to fall out. In the third type, represented by most of the Argentine strains, the boll remains tightly closed when ripe. These three principal types of bolls are shown in Fig. 1, drawn by R. C. Steadman.

In the common varieties of flax the ripe bolls are highly hygroscopic, the bolls opening as they dry out but closing tightly again when wet by dew or rain (Fig. 1, B and B'). The writer believes that this character can be used as an indicator of the proper condition of flax for harvesting, particularly with the combine.

During the ripening process of the flax plant, the following changes can be observed: (1) At first a few of the early bolls near the base of the panicle begin to dehisce; (2) in a few days the majority of the bolls dehisce; and (3) finally the remainder of the bolls dehisce, the whole plant turns brown, the leaves shrivel, and the stems become dry. In some cases it is advantageous to harvest with the binder or windrower when the flax is only partly ripe, at the stage described under 2, and allow the harvested crop to dry in the shock or windrow. For combining, the crop should be fully ripe, as indicated by the condition described under 3.

In moisture determinations of ripening flax made at Mandan, N. Dak., in 1928, only a very few bolls began to dehisce when the seeds contained as much as 14 to 15% of moisture. Nearly all bolls were semi-dehiscent when the seed contained approximately only 9% of moisture. The exact moisture content at which partial dehiscence occurs has not been determined. It probably occurs when the seeds contain from 9 to 11% of moisture.

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