

## 2. Inverted embryos.

An ear designated S1524 (2) (x) in the culture of R. A. Brink was noticed in the spring of 1947 to have all of the embryos on the butt side of each kernel (i.e., in the inverted or abaxial position). The known genotype of this stock was A B Pl  $r^{ch}$ . It was obviously a rather weak stock. The ear was very small and poorly filled, and, while the abaxial location of the embryos was noted, little significance was attached to it for it could have been a consequence of the wide spacing of the kernels. Two selfed ears from S1524 (2) were harvested in the fall of 1947. Both were very small and sparsely filled, but again with all embryos inverted. In 1948 two outcrosses were made using the inverted A B Pl  $r^{ch}$  line as the male parent. This material was then laid aside and only grown again in more recent years.

The primary objective when seed of one of these crosses was planted here in Canada was the improvement of the vigor of the A B Pl  $r^{ch}$  parent. The  $F_1$  was selfed and in 1953 twenty selfed  $F_2$  ears were harvested of which 4 had all inverted embryos. Seed from 3 of these ears was planted 1954. Thirteen selfed ears all had embryos on the butt side of the kern only. Ten of these were again only sparsely filled, but 3 were normal, well filled ears and on these the inverted embryo position persisted.