

Septoria tritici. Septoria tritici occurred throughout the Spring Wheat Area of the Winter Rainfall Regions. Extremely heavy infestations were recorded on commercial cultivars grown in the South Western Districts where humidity was unusually high. A backcross program was initiated using Bulgaria 88 as the Septoria-resistant parent.

Fertility studies. Fertility trials were initiated in 1967 using three levels of nitrogen on both semi-dwarf and commercial tall growing cultivars. In the South Western Cape, where wheat is grown without irrigation, heavy responses of the semi-dwarf wheats to high levels of nitrogen were recorded. More tests are needed to determine if it is economical to apply fertilizer under these conditions. In the Transvaal region, where wheat is grown under irrigation, yields as high as 4700 lbs. per acre were recorded. In this region there is a heavy demand for new semi-dwarf cultivars. Some of the newer Mexican cultivars, such as Inia 66, are well adapted and might, in the near future, be released as commercial cultivars. Seed of Inia 66 is now being increased for this purpose.

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ITEM FROM SPAIN

By J. R. Lacadena. Estación Experimental de Aula Dei, Zaragoza.

Embryo-endosperm Grafting and the Asexual Transmission of Cytoplasmic Male Sterility in Wheat

In order to test whether or not cytoplasmic male sterility is asexually transmitted by embryo-endosperm grafting, investigations have been carried out in the year of grafting (Lacadena, 1967) and with the offspring obtained by selfing and crossing of the grafted plants (Lacadena, in press).

The results obtained seem to indicate that neither male sterile endosperms influence the fertility of fertile embryos nor fertile endosperms restore the fertility of male sterile embryos.

Several plants expected to be sterile yielded some seeds (24 seeds harvested from a total of 8,793 florets), probably having a parthenogenetic origin.

Chromosome numbers of $2n = 42$ (19 seeds), $2n = 43$ (1 seed) and $2n = 35$ (4 seeds) were found. The repeated occurrence of 35-chromosome plants suggests the possibility that a systematic and selective elimination of an entire genome has taken place. In order to test this working hypothesis crosses of the 35-chromosome plants with species having AA, AABB, and AABBDD genomic constitutions have been planned.

Reference: Lacadena, J. R. Wheat Information Service, Nos. 23-24:10-11 (1967).

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