## 3191 - Agronomy

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## Eradication of blackleg disease of canola in Brazil ? a success story

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Canola (Brassica napus L.) research and commercial production started in Brazil in the mid-1970's. Lack of technology adapted to Brazilian conditions hindered the expansion of canola production. From 1980 to 1997 the cropped area averaged 11,400 haper year with a mean yield of 906 kg/ha. In 2000, blackleg, incited by the fungus Leptosphaeria maculans (Desmaz.) Ces. & De Not. (asexual state Phoma lingam (Tode:Fr.) Desmaz.), was discovered in southern Brazil. The disease caused partial and even total destruction of some canola fields, which made production insecure and it was suggested that the canola cropping area would sharply decline. In April and May, 2002, canola was sown into 4-replicate, RCBD experiments at five locations under natural inoculum to evaluate 18 B. napus genotypes from diverse origins. Disease incidence and severity were evaluated after transversely cutting the lower portion of each stem of 50 plants taken at random from each plot. Two canola hybrids, Hyola 43 and Hyola 60, were identified with adequate agronomic characteristics, and complete resistance to the pathogenicity group of L. maculans present in Brazil and Paraguay. Timely efforts for registration of these hybrids [Pest Risk Analysis-PRA (a 289 pages document)], and importation of seed from Australia allowed commercial production of resistant hybrids over thousands of hectares, just one year after studies began. Following registration of these hybrids, field experiments identified optimum seeding dates and other beneficial agronomic practices, which were followed by intensive training of farmers and technical assistants led by researchers. Canola production has continued as a result of further introductions of new, blackleg resistant (Hyola) hybrids, technical assistance to farmers and the guaranteed purchase of canola at a price equivalent to sovbeans. The joint efforts of researchers, oil extraction companies, breeding companies and suppliers of other inputs resulted in an average of 32,300 hectares of Brazilian production per year, with yields increasing to an average of 1,656 kg/ha between 2002-2007. The cropping area has continued to increase steadily, reaching 59,100 ha in 2011. The worldwide availability of knowledge and genetic material for canola production, when combined with the efforts of professionals and companies with the appropriate technologies and attitudes overcame the challenges of canola production in countries in which canola R & D is still scarce.