at Tifton for agronomic traits and oil percentage. The F	extsubscript{6} generation was increased during 1986–1987 in the greenhouse and screened for glucosinolates, triazine tolerance, and fatty acid composition. Seed from F	extsubscript{6} plants were used for additional field evaluations.

Rebel was evaluated for agronomic performance during the winters of 1987–1988 and 1988–1989 at several locations across the southern USA. In these trials, seed yields of Rebel usually were equivalent to or higher than the 'Cascade' control (4). Rebel had reduced stands and subsequently lower seed yields at those locations subject to severe cold weather during February 1989. This indicates that Rebel is less winterhardy than Cascade (1). The relatively high seed yields observed in Rebel were not expected, since the chloroplast mutation that imparts tolerance to triazine herbicides has been reported to reduce seed yields by nearly 25% (2). It appears that selection in the F	extsubscript{3} and F	extsubscript{4} generations for high seed yield potential in the Southeast may have helped minimize the impact of the chlorophyll mutant on seed yield.

At five locations in the Southeast during 1988–1989, Rebel flowered and matured 6 to 7 d before Cascade (4). This early maturity may allow Rebel to be grown in a double-crop rotation with warm-season annual crops across much of the southern USA. Rebel is ≈15 cm shorter than Cascade and has a slightly lighter green leaf color.

Because of its tolerance, Rebel can be grown in soils where residual levels of triazine herbicides limit the production of susceptible rapeseed cultivars. Rebel's triazine tolerance may also allow selective control of winter annual mustard (Sinapis spp.) and radish (Raphanus spp.) weeds that threaten canola production in the southeastern USA. The University of Georgia is accumulating data and reviewing Canadian registrations in an attempt to request IR-4 registration of atrazine for use on triazine-tolerant cultivars of rapeseed such as Rebel.

Seed increases of Rebel are limited by Plant Variety Protection to foundation and certified seed classes. Seed of Rebel for use as germplasm or for experimental purposes is available from the director of the Idaho Agricultural Experiment Station, Moscow, ID 83843. Information on commercial utilization of Rebel is available from the Idaho Research Foundation, Moscow, ID 83843.


References and Notes


Published in Crop Sci. 31:486 (1991).