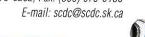


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## How is **JUNCEA** performing?

Breeders give it rave reviews. but growers want more drought tolerance tests

by Kelly Funke

Since it was registered last spring, Brassica juncea, a "canola quality mustard," has been grown on limited acreage. Nevertheless, some industry players already believe juncea may be the future of the canola industry.

The few growers who have experience with juncea say its yield matches herbicidetolerant canola varieties under dry conditions. But they are still waiting to see juncea put to the test under the type of drought that struck much of Saskatchewan and Alberta

Saskatchewan Wheat Pool (SWP) released the juncea varieties Arid and Amulet for commercial production last April. They were grown under contract by a small number of growers in southern Saskatchewan, where drought tolerance would usually be an issue. However, in 2002 those areas of the province received more moisture than other areas.

Dr. Derek Potts, SWP Manager of Cereals and Juncea Breeding, says juncea could significantly expand the canola growing area on the prairies. Juncea will perform to its potential in hot, dry conditions where Brassica napus canola will not, he adds.

"Under really hot conditions napus flowers will abort but under those extreme conditions juncea will still seed set," says Potts. SWP also maintains that juncea has better seed vigour than napus canola.

Work on canola quality mustard began at Agriculture and Agri-Food Canada in the early 1980s. SWP joined the project in 1991. Plant breeders have concentrated on bringing the oil qualities in line with canola. Juncea (the same species that produces oriental and brown mustard) already had the drought tolerance characteristics breeders were looking for, but just as the first canola varieties had to be made low in erucic acid and glucosinolates, so did juncea. Breeders

also had to ensure it would have the same fatty acid profile as traditional canola oil.

As soon as they met the basic canola criteria, SWP sought and received registrations for Arid and Amulet. They are drought tolerant, resistant to blackleg and produce seedpods that are less prone to shattering than napus canola.

The company claims juncea's yellow seed coat creates a more attractive meal than the dark brown or black seeds of napus canola. It also contains less fibre than dark seedcoats, making the meal more easily digestible and, therefore, a more desirable feed ingredient than napus canola.

Due to the heavy focus on end-use characteristics, there's still a lot of untapped agronomic potential in the species, says Potts. Growers are giving the agronomic package reserved but positive reviews.

Lonnie Ingell of Outlook, SK had worked for SWP and obtained a small amount of Arid seed in 2001. He planted 32 hectares (80 acres) as an experiment and it yielded 0.84 tonnes/ha (15 bushels/ac), the same as an InVigor hybrid canola variety. Both were grown in what he describes as a "fairly dry year."

Richard Babonich of Lacadena, SK grew 32 ha of Amulet in 2001 and it yielded the same as a Roundup Ready canola— 1.4 t/ha (25 bu/ac). Babonich says he plans to double his juncea acreage in 2003 but adds that he won't be completely won over until juncea reaches 2.24 t/ha (40 bu/ac).

The only difficulty Babonich had with juncea in 2001 was control of wild oats, which tend to be a problem on his farm. The herbicide choices are more limited than traditional canola but Babonich did bring the weed under control.

Growers must remember that although the end product of juncea is a canola quality

oil, it is managed like an oriental mustard, says Potts. Use the same herbicides on juncea that would be used on mustardtrifluralin and Muster, but not at the high rate. Some growers have done damage to the crop when they've applied Edge or Lontrel, says Potts.

It will take time to build up seed stocks because of the limited acreage that's been contracted so far, says Potts. But other seed industry representatives say the canola industry could be seeing more juncea varieties in the years to come.

Pioneer Hi-Bred International has started work on developing a juncea variety, according to Dave Charne, Director of Canola Research. It offers the possibility of expanded canola acres in Canada, he says.

"In a decade, that's going to be critical to keeping the Canadian industry competitive," he says.

Crushers will likely treat juncea like napus and rapa and crush it all together as traditional canola, says Potts. CanAmera Foods has done a crush test on juncea at its Harrowby, MB plant but is reserving judgement until more juncea varieties are available and the crop is more widely grown.



