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WORLD FIRST IN OAT BREEDING

A breakthrough of world significance in oat breeding has been achieved at the Waite Institute.

The new technology, developed by SARDI researchers Dr Parminder Sidhu and Dr Phil Davies has been supported by the South Australian Grains Industry Trust (SAGIT).

The new technique, known as "isolated microspore culture" (IMC) is similar to the method that has been adopted for breeding the successful barley varieties Dhow, Sloop SA and Flagship.

IMC produces "doubled haploid" plants which fast track the arrangement of genes to allow new varieties to be bred 3 to 4 years faster when incorporated into a traditional breeding program.

The method, which involves the growth of immature pollen grains (microspores) *in vitro* to produce new varieties, has been used for the past decade for barley but scientists, until now, have been unable to develop a similar technique for oats.

"We have had plenty of albino plants in the past but none with the essential green chlorophyll on which the plant depends", Dr Davies said.

The SARDI researchers have made critical modifications to the *in vitro* growing conditions to allow the successful growth of microspores and their development into mature, healthy plants.

This research will pave the way for the accelerated breeding of new oat varieties.

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