

## **RNA vaccine for plant viruses**

Researchers at Australia's Commonwealth Scientific and Industrial Research Organization (CSIRO) Plant Industry have developed a technique using 'hairpin RNA' (hpRNA) that effectively vaccinates crop plants against viruses. The new technique is called post-transcriptional gene silencing (PTGS) with intron-spliced hairpin RNA (ihpRNA). This process involves inserting plant DNA that has a small, incomplete piece of virus RNA added to it. It produces double stranded RNA that is known as hpRNA. The plant sees the hpRNA as alien and activates its latent defence mechanism. This degrades the hpRNA, thus resulting in immunity to that specific virus.

Using this technique, the team at CSIRO has already developed potatoes resistant to Potato Leaf Roll Virus (PLRV). These plants have been tested in the laboratory and green house, and have undergone field trials. Results suggest that the hpRNA technique will provide a simple approach for producing reliable virus immunity that can be passed down through plant generations. This technique can also be used to silence unwanted genes like those that make allergens in nuts, pollen, etc. *Contact: Mr. Nick Goldie, Commonwealth Scientific and Industrial Research Organization, Australia. Tel: +61 (2) 6276 6478; Fax: +61 (2) 6276 6821; E-mail: Nick.Goldie@nap.csiro.au.* (AgBiotech Reporter, July 2001)