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## PRIME MINISTER

FOR MEDIA      EMBARGOED UNTIL 6.00 PM WEDNESDAY 11 APRIL 1990

Together with the Minister for Science and Technology and the Minister Assisting me on Science, Simon Crean, I am announcing today the winners of the inaugural Australia Prize. The international award is shared jointly by Professor Allen Kerr of the University of Adelaide, Professor Jeff Schell of the Max Planck Institute in Cologne and Professor Eugene Nester of the University of Washington.

This year's prize, valued at A\$250,000, is awarded for outstanding achievement in science and technology promoting human welfare in the field of biological sciences related to agriculture or the environment. Professors Kerr, Schell and Nester are honoured for their achievements in genetic engineering of plants and microbes which will ensure a more productive and environmentally benign agriculture for the future.

The three scientists have led research teams which, over the past 20 years, have provided some of the most crucial insights into the biology and genetic systems of the crown gall bacterium *Agrobacterium tumefaciens*. This bacterium can be considered as a natural genetic engineer. It can transfer DNA from bacterial cell to plant cell. This DNA directs the plant to synthesize hormones which promote uncontrolled cell division and tumour development. The hormone synthesizing genes have been located and, for genetic engineering of plants, eliminated. They can be replaced by more desirable genes.

These studies have led to the construction of genetically engineered plants that are resistant to herbicides, to insect pests and to viruses. Plants can also be directed to produce pharmaceutical compounds. In addition, basic studies on gene regulation in plants depend on this technology. Clearly, the genetic engineering of plants is going to have a major impact on crop improvement, on basic studies in plant biology and on the pharmaceutical industry.

It will also lead to less environmental pollution and degradation. Herbicides are used mainly to allow crop production by minimum soil disturbance; this markedly reduces soil erosion, a serious environmental problem in Australia. Insect pests and diseases of plants are usually controlled by toxic chemicals. The construction of resistant plants will reduce the requirement for such chemicals.

The three scientists and their research teams have made breakthroughs which will radically alter our approach to agriculture in the 21st century. Providing a biological alternative to chemical disease and pest control will ensure a safer and cleaner planet.

The Government established the Australia Prize last year as part of its commitment to science and technology in this country. The funding of scientific research is an investment that will repay itself many times over through the benefits to humanity and through boosting of our national scientific and technological capacity.

I look forward to presenting the prize and an inscribed medal to the winners at a ceremony which will be held in Parliament House on 14 May 1990.