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Scientists seek ways to grow super food

By Stuart Roberts

Scientists are taking the first bold steps into reshaping the future of the world's food supply at the CSIRO's state-of-the-art high resolution plant phenomics centre, which opened this month.

The \$18 million facility, co-located at the CSIRO's Black Mountain laboratory and the Australian National University, houses robotic and imaging equipment that will be used to examine a plant's genes in order to produce plants that have higher yields, are less prone to disease and have less impact on human consumers.

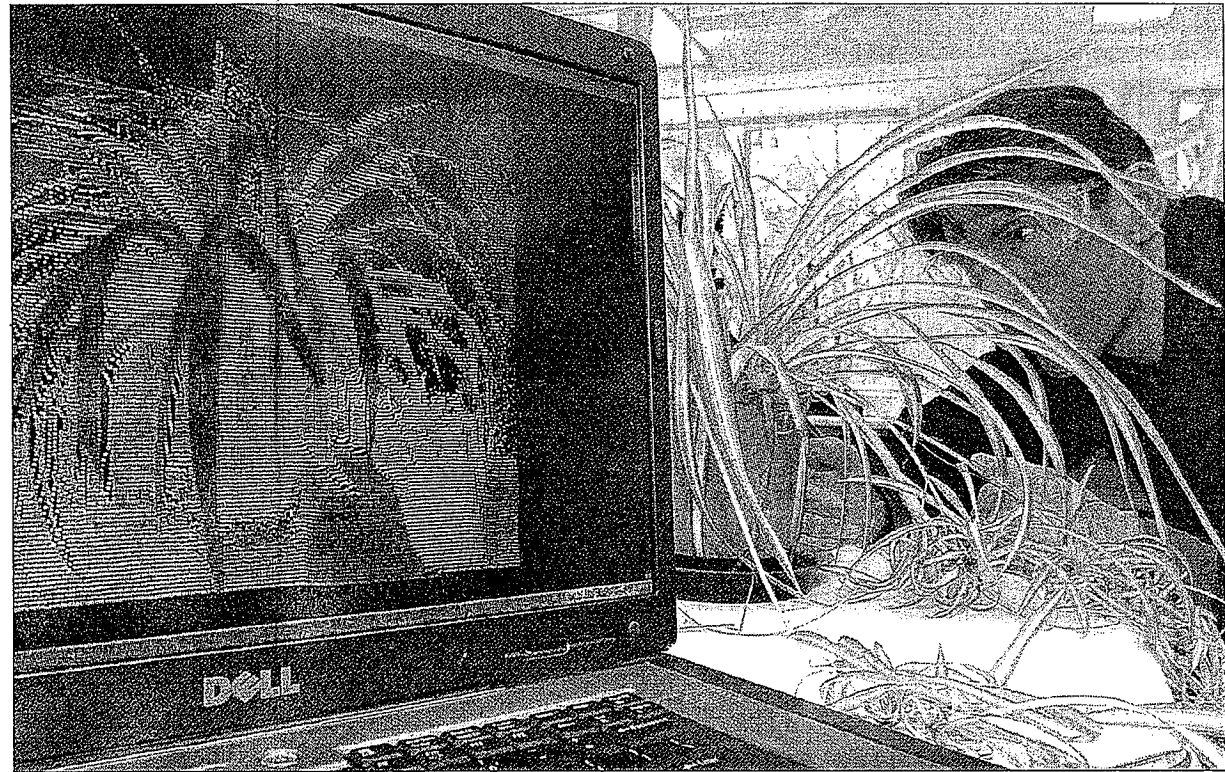
The chief executive officer of the CSIRO, Megan Clark, said the centre aimed to address critical issues such as the logistical problem of feeding a growing global population.

"It's hard to conceive that in the next 50 years we're going to need to produce as much food as we've ever produced in human history," Dr Clark said.

"It really makes you realise what an enormous challenge we have over the next 50 years to provide food security in the world."

Essentially the centre gives scientists the ability to screen plant phenomics more efficiently, in turn speeding up the rate at which new food and energy technologies can be developed. Phenomics is the study of a plant's genetic traits, which define how the plant grows, its appearance, its function and its performance.

Research scientist Xavier Sirault



GENE RESEARCH: Scientist David Deery studies the 3D image of a plant at the CSIRO's phenomics centre. Photo: GRAHAM TIDY

explained that the centre would attempt to reverse the traditional genetic process, which previously had been to mutate a particular gene within a plant and then grow it to "see what happens". "[The centre is] about being able to pinpoint genes

that are responsible for efficient plants," Dr Sirault said.

"We're looking at the differences which are expressed in what you see, trying to find why those differences are there, and then relating them to the gene."

The research will also be used to develop more efficient techniques of using crops such as corn and sugar cane to produce green energy, since the effectiveness of using one species of plant over another is defined at a genetic level.