BPAT, aiming to significantly improve plant breeding, the Bill & Melinda Gates Foundation awards UQ a US$2.7 million grant to implement the Breeding Program Analysis Tool (BPAT) to assess breeding programs in developing countries. The tool aims to help breeding programs overcome the management challenges they can face, such as breeding institutions being managed as if they are university departments, with scientists rewarded for publication, rather than product development; researchers having limited access to farmers and consumers and understanding of market requirements, meaning research may not be targeted in the right areas; and breeders having limited access to technology and expert advice, affecting their ability to optimise their research.

The Bill & Melinda Gates Foundation awards UQ a US$2.7 million grant to implement the Breeding Program Analysis Tool (BPAT) to assess breeding programs in developing countries. BPAT is a structured review of technical, capacity and management components of plant breeding programs, which aims to help create improvements that increase efficiency and achieve higher rates of genetic gains in crops.

Thanks to its international reputation for excellence in plant breeding, the Bill & Melinda Gates Foundation awarded The University of Queensland a US$2.7 million grant to implement BPAT, aiming to significantly improve plant breeding in developing countries and maximise increases in crop yields by implementing this innovative new assessment tool.

Dr Chris Lambrides from the School of Agriculture and Food Sciences discusses areas for improvement. The tool helps breeding programs create new cultivars that have higher yield, which will bring greater profitability to farmers and help alleviate poverty in the developing world.

The tool starts by introducing the assessment to the institution through a group call. Questionnaires are then sent out to breeders and other staff at the institution to collect information about the breeding programs. Next, the team visits the institution for three to five days, meeting staff and touring the facilities. Finally, the team combines the information from the visit and the questionnaires to create a scorecard and report that describes the breeding program's strengths and then discusses areas for improvement.

This assessment can then be used by breeding programs as a basis for developing an improvement plan, and may also be used in the future by selected donors for evaluation and developing investments in crop improvement.

Since starting BPAT, the team has visited breeding projects in Ethiopia and India. Eventually the project will extend across 11 breeding programs in Sub-Saharan Africa and South Asia, covering plants including sorghum, rice, maize, wheat, chickpeas and bananas.

The team has also developed the BPAT website, which acts as an information hub, providing tools that allow organisations to conduct self-assessments.

“We are investigating the possibility that in the future the tool will be made available to other donors and interested parties at a reasonable cost,” says Dr Lambrides.

Following are the key milestones of the project:

**November 2015:** The Bill & Melinda Gates Foundation awards UQ a US$2.7 million grant to implement the Breeding Program Analysis Tool (BPAT) to assess breeding programs in developing countries.

**November 2016:** UQ team visits plant breeding programs in Ethiopia.

**June 2016:** UQ team visits plant breeding programs in India.

**November 2016:** Since starting BPAT, the team has visited breeding projects in Ethiopia and India.

**2016 onwards:** The tool is extended across 11 breeding programs in Sub-Saharan Africa and South Asia.

**2018 onwards:** The tool is extended to South Asia, covering crops including sorghum, rice, maize, wheat, chickpeas, and bananas.

The UQ team is collaborating with CGIAR, a global agricultural research partnership, to identify suitable breeding programs to participate in the assessment. The assessment process usually takes 10–12 weeks. It starts by introducing the assessment to the institution through a group call. Questionnaires are sent out to breeders and other staff at the institution to collect information about the breeding programs. The UQ team conducts assessments to identify areas for improvement. The assessment can then be used by breeding programs as a basis for developing an improvement plan, and may also be used by selected donors for evaluation and developing investments in crop improvement. Since starting BPAT, the team has visited breeding projects in Ethiopia and India.

Recently the project has extended its reach to the South Asia region, covering crops including sorghum, rice, maize, wheat, chickpeas, and bananas. The tool is an innovative new assessment tool that helps breeding programs create new cultivars that have higher yield, which will bring greater profitability to farmers and help alleviate poverty in the developing world.

The team has also developed the BPAT website, which acts as an information hub, providing tools that allow organisations to conduct self-assessments.

“For the future, we will make the tool available to other donors and interested parties at a reasonable cost,” says Dr Lambrides.

**The journey so far:**

**November 2015:** The Bill & Melinda Gates Foundation awards UQ a US$2.7 million grant to implement the Breeding Program Analysis Tool (BPAT) to assess breeding programs in developing countries.

**November 2016:** UQ team visits plant breeding programs in Ethiopia.

**June 2016:** UQ team visits plant breeding programs in India.

**The team is:**

- Dr Chris Lambrides: School of Agriculture and Food Sciences.
- David Jordan: Queensland Alliance for Agriculture and Food Innovation.
- Contact details:
  - Web: plantbreeding.org
  - Email: chris.lambrides@uq.edu.au
  - Phone: (+61 7) 3365 1177

The team has also developed the BPAT website, which acts as an information hub, providing tools that allow organisations to conduct self-assessments.

“With the world’s population expected to exceed nine billion by 2050, food production will need to increase by 70 per cent to sustain humanity’s ever-growing impact on our planet.”

**The tool aims to help breeding programs overcome the management challenges they can face, such as breeding institutions being managed as if they are university departments, with scientists rewarded for publication, rather than product development; researchers having limited access to farmers and consumers and understanding of market requirements, meaning research may not be targeted in the right areas; and breeders having limited access to technology and expert advice, affecting their ability to optimise their research.**