



Open source biotechnology alliance for international agriculture: Mapping the patent maze to forge a shared research toolkit.

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CAMBIA & IRRI (The International Rice Research Institute) today announced a major joint venture to advance the BiOS Initiative - a new strategy that will galvanize agricultural research focused on poverty alleviation and hunger reduction. The venture is catalyzed by a 2.55M USD grant to CAMBIA from The Ministry of Foreign Affairs of Norway.

The BiOS Initiative – Biological Innovation for Open Society- is often called Open Source Biotechnology. The BiOS model has resonance with the Open Source software movement, famous for such successful efforts as Linux. Open Source software has spurred faster innovation, greater community participation, and new robust business models that break monopolies and foster fair competition. BiOS targets parallel challenges that limit the effective use of modern life sciences in agriculture to only a few multinational corporations.

“New technologies are increasingly tangled in complex webs of patent and other legal rights, and are usually tailored for wealthy countries and well-heeled scientists,” said IRRI’s Director General, Robert Zeigler. “Half the world depends on rice as a staple food – but this also means half the world’s potential innovators could be brought to bear on the challenges of rice production, given the right toolkits – and the rights to use them”.

In the joint work, CAMBIA’s Patent Lens, already one of the most comprehensive cost-free full-text patent databases in the world, will be extended to include patents in major rice-growing countries, including China, Korea, and India. These same countries are growing powerhouses of innovation, poised to play lead roles in the next generation of biological problem solving.

The Patent Lens will also develop analyses and foster the capacity in the developing world to create patent maps of the key emerging technologies that could be constrained by complex intellectual property rights worldwide, including the rice genome itself. These patent ‘landscapes’ will be used to guide the development of improved technology toolkits in a new, inclusive manner.

Says Richard Jefferson, CAMBIA’s CEO, “It’s not so much about getting access to old patented technology – it’s about forging collaborations to develop better, more powerful tools within a ‘protected commons’ to get different problem solvers to the table.” These could for example be tools for precise, natural genetic enhancements, using non-GM approaches (for example, homologous recombination), new plant breeding methods such as marker assisted selection, or even true breeding hybrids of crop species that would allow farmers in developing countries to use hybrid seed year after year.

Adds Jefferson, “Scientists and farmers need better options for problem solving, that meet their priorities, work within their constraints, build on their ingenuity, and maintain their independence; this is what BiOS is all about.”

IRRI, an autonomous international institute based in Los Banos, The Philippines, is one of the foundation institutions of the CGIAR (Consultative Group on International Agricultural Research), and is dedicated to improving the lives and livelihoods of resource poor rice producers and consumers worldwide.

IRRI has been at the forefront of rice research for almost thirty years, delivering new rice varieties and practices to rice farmers throughout Asia and the developing world. Now, rice has become the model system for grain crops worldwide, with its entire DNA sequence known; but the 'mining' – and patenting - of this genetic resource and the possibility that the tools to improve it could be restricted by broad patents has raised legitimate concerns that must be met head-on.

CAMBIA, based in Canberra Australia, is an independent non-profit institute that invents and shares enabling technologies and new practices for life sciences and intellectual property management to further social equity.

CAMBIA is the founder of the BiOS Initiative (www.bios.net), the Patent Lens (www.patentlens.net) and the online collaboration platform BioForge (www.bioforge.net). CAMBIA published the first explicit 'open source' biotechnology toolkit in the Journal "Nature" in February 2005. Included in that publication was the technology 'TransBacter' in which the technique of plant gene transfer by *Agrobacterium*, covered by hundreds of patents, was bypassed using other symbiotic bacteria to add beneficial genes to rice and other plants. This and other technologies have been made freely available under BiOS licenses.

Work by IRRI, CAMBIA scientists, and others in an online collaboration community, will optimize this process and other open source enabling technologies, ensuring their availability to scientists throughout the developed and developing world.

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