

CRADA No. BG0022201

LBNL Report Number \_\_\_\_\_

1. Parties: DuPont  
(Identify Parties to the CRADA)
2. Title of the Project: Microbially derived crop protection products
3. Summary of the specific research and project accomplishments: All planned milestones were met. Some 26,000 samples of extremophilic microorganisms grown at LBNL underwent primary screening. Samples showing biological activities of interest were re-grown and secondary screened. Promising novel leads were reverse-engineered and the microbial sequences responsible for the relevant biological activity were transferred into major crop plants. Following greenhouse validation, the transgenic plants are now growing worldwide and express their own antifungal polypeptides. After completion of the project, DuPont decided to fund three more years of collaborative R&D at LBNL.

4. Deliverables:

Deliverable Achieved	Party (LBNL, Participant, Both)	Delivered to Other Party?
Production of ~26,000 small-scale fermentation samples	LBNL	N/A
Primary screening for antifungal and insecticidal activities	Participant	N/A
Large-scale re-growth of strains with relevant biological activity	LBNL	N/A
Secondary screening, selection of novel antifungal polypeptides	Participant	N/A
Extraction of genomic DNA	LBNL	N/A
Generation and testing of transgenic plants	Participants	N/A
Patent protection of novel antifungal polypeptides and their use	Both	N/A

5. Identify publications or presentations at conferences directly related to the CRADA?  
*"Microbial Diversity-Based Novel Crop Protection Products"* ASM General Meeting, 2007, Toronto, Canada
6. List of Subject Inventions and software developed under the CRADA:  
(Please provide identifying numbers or other information.)  
US 7,306,946 B2  
US 7,589,176 B2  
US 7,598,346 B1  
US 7,700,832 B2

7. A final abstract suitable for public release: see under Section 3.  
(Very brief description of the project and accomplishments without inclusion of any proprietary information or protected CRADA information.)
  
8. Benefits to DOE, LBNL, Participant and/or the U.S. economy.  
The CRADA was associated with a DOE Global Initiatives for Proliferation Prevention (GIPP) program-funded project LBNL-T2-0193. The multi-year project contributed to DOE's non-proliferation mission and complied with the program's project selection criteria. The GIPP project engaged numerous former Soviet WMD workers and introduced them to peaceful R&D and the international scientific community. LBNL contributed microbial physiology skills and proprietary fermentation know-how and benefited from proprietary screens done by the Participant. Transgenic crop plants expressing their own antifungal polypeptides successfully replace synthetic chemical agents.
  
9. Financial Contributions to the CRADA:

DOE Funding to LBNL	\$ 710,000
Participant Funding to LBNL	\$ 238,400
Participant In-Kind Contribution Value	\$1,506,000*
Total of all Contributions	\$2,454,400

\*Participant of a GIPP project has to fully match USG contributions, including funds provided to the former Soviet WMD workers

09/02/2009