



Cornell University
College of Agriculture and Life Sciences
New York State Agricultural Experiment Station

[Home](#) / [News & Events](#) / [2003 Releases](#)

FOR IMMEDIATE RELEASE

April 24, 2003

Contact: [Linda McCandless](#), 315-787-2417

**Cornell Research is Key:
New Company Promises to
Detoxify Pollutants with Plant
Biologicals**

by L. McCandless

GENEVA, NY: A company formed as a spin-off of research conducted at Cornell University, the University of Surrey and the University of Naples, Italy, will provide biological systems to detoxify heavily contaminated soil and water.

"Our goal is to develop biological products with broad capabilities for the detoxification of polluted soils, sediments and waters," said Cornell University horticultural scientist Gary Harman, one of the founding partners of the new company. "These products will provide low cost alternatives to commonly used chemical or physical cleanup methods. Biological methods for the remediation of soils or sediments or waters contaminated with heavy metals or arsenic or toxic compounds such as cyanide or coal tars, have been implemented on a very limited scale," said Harman, who works at the New York State Agricultural Experiment Station, in Geneva, NY.

The new company, Phytobials, LLC, combines the best attributes of phytoremediation (i.e., using plants), and microbial control methods-hence, the name. Other founders include Dan Berler, PhD, MBA, president and CEO; James Lynch, head of the School of Biomedical and Life Sciences of the University of Surrey; Matteo Lorito of the University of Naples (Italy); and senior research associate Terry Spittler, of Cornell University.

The systems incorporate microbes that form robust and stable associations with plant roots, the most useful of which is *Trichoderma harzianum* strain T22. T22 increases plant root depth and density and fosters the formation of fine roots, thus enhancing uptake of nutrients and minerals required for plant growth. T22 and similar organisms, in synergy with plants that hyper-accumulate heavy metals and arsenic, are expected to remove these toxicants from soils or water.

The company has agreements with major companies that possess cutting edge phytoremediation technology and intellectual property. The same microbes also produce enzymes that degrade cyanide when associated with plant roots. Other systems proprietary to the company are expected to use T22 or other microbes to degrade toxic and carcinogenic polycyclic aromatic hydrocarbons in old coal gas production sites or petroleum spills. In addition, tests demonstrate that Phytobial systems degrade and remove phenolic contaminants from waste-water streams, such as highly polluted waters produced during olive oil processing.

T22 has been used in the past decade in agriculture (see www.bioworksbiocontrol.com), where it has been shown to be a plant symbiont. Extensive testing required by the US Environmental Protection Agency has revealed no toxicity or pathogenicity to plants or vertebrates. T22 is listed for use in organic agriculture. Extensive use and formal testing indicate that T22 is safe and nontoxic.



Gary Harman (far right) with colleagues at International Clean up Exhibit and symposium held in Birmingham, UK, last month.

Phytobial licenses intellectual property from Cornell and Surrey and includes proprietary materials from its Naples participant.

Phytobial technologies were introduced and displayed at International Clean Up, an international exhibit and symposium held April 8-10, 2003, in Birmingham, UK.

#

Contact Persons:

Dan H. Berler, Ph.D, MBA
CEO and President
2585 Valencia Drive
Marietta, GA 30062
Telephone: 770-853-3448
Email: dberler@bellsouth.net

Prof. Gary E. Harman
3986 Braewood Lane
Geneva, NY 14456
Day telephone 315-787-2452
Email: giharman@capital.net

Sr. Research Associate Terry D. Spittler, Ph.D.
Secretary Treasurer
PO Box 1203
Geneva, NY 14456
Telephone: 315-787-2283
Email: tds2@cornell.edu

Prof. Matteo Lorito
Viale Filanda, 3
84080 Pellezzano (Salerno), Italy
tel/fax: +39-089-274007
Email: Lorito@unina.it

James M. Lynch
School of Biomedical and Life Sciences
University of Surrey
Guildford, Surrey, GU2 7XH, UK
Tel +44(0)1483 689721
Fax+44(0)1483 689728
Email j.lynch@surrey.ac.uk

Search all **NYSAES** press releases

New York State Agricultural Experiment Station, 630 West North Street, Geneva, New York 14456
Telephone: 315.787.2011



Last Modified: May 9, 2003
Comments to: [webfeedback](#)