

TECHNICAL PROGRESS AND COMMERCIAL LAUNCH OF *PASTEURIA USGAE* FOR CONTROL OF STING NEMATODES (*BELONOLAIMUS LONGICAUDATUS*) ON TURF AND STRAWBERRIES.

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The demand for natural, safe, and target-specific pesticides and crop-protection agrochemicals is great. Unfortunately, not many are available for use, practical to produce, or effective at controlling soil-borne plant pests. For many years, *Pasteuria* spp. have been studied for their potential to control plant parasitic nematodes as the endospore-forming bacteria are natural parasites of nematodes. This group of biological control organisms is known to be very specific in that they only attack/parasitize their target hosts and apparently have no effect on any other organisms. They are comparatively safer to work with and have no known adverse effects on mammals or humans. The major limitation with *Pasteuria* has always been production. Processing of the bacteria was limited to *in vivo* techniques which are laborious, expensive, and result in only small quantities of the bacterial endospores. Technological advances developed at Pasteuria Bioscience, Inc. have allowed for *in vitro* production of large quantities of viable endospores. This has in turn allowed for the practical development of this biological control agent for commercial use.

A variety of *Pasteuria* products are being developed by the company. Development of the *Pasteuria usgae* product to control Sting nematodes in turf is currently the most advanced. U.S. registration was filed in May of 2008 and a commercial launch of a granular Sting nematicide for turf is anticipated as early as fall of 2009. Production of the product has become much more efficient and has recently been scaled-up to large batches to prepare for commercialization. Although the initial product will be a granular formulation for turf applications, a liquid formulation has been developed and is being tested on Florida strawberries.

Results from initial field testing on golf greens in multiple southeastern states have been very promising and improvements in efficacy and reductions of rates required are under study. Efficacy appears to be directly related to rates used and/or methods of application (similar to chemical nematicides and biological organisms like BT). Environmental changes other than fluctuation in the nematode populations seem to have little or no effect on efficacy (also similar to BT).

Pasteuria Bioscience is a Series B venture-funded company located at the University of Florida Biotech Development Center in Alachua, Florida