

Miscanthus Rhizome Root Harvester And Planter Unveiled

URBANA, ILL.

After years of research and collaboration, a miscanthus rhizome regeneration harvester and planter system has been developed and was unveiled for the first time at the University of Illinois Bioenergy Feedstocks Symposium on Tuesday, Jan. 12.

The new harvester and planter machine package is the result of a three-year collaboration between U of I, Tomax Ltd, and Bermuda King USA. This machinery can lower the cost of miscanthus rhizome production by up to 40 percent and create opportunities for miscanthus to be used more widely as a high-yield bioenergy crop.

Gavin Maxwell, Tomax Ltd Senior Bioenergy Consultant, said, "Bioenergy feedstock processors require security for supply and unless we dealt with regeneration and planting issues for miscanthus, we simply couldn't make progress."

Miscanthus rhizome cultivation is a labor-intensive process involving multiple machines and costly manual selection and grading.

"The collaboration team had a very clear objective when beginning the design process of the harvester and planter," Maxwell said. "Our goal was to remove manual labor, integrate the digging and grading process, increase soil separation and improve both quality and volume to substantially reduce the cost of vegetative rootstock propagation."

The result, the Rizomgen™ planter and harvester package, is expected to save 50 percent on existing rhizome harvesting and planting costs.

Recent trials in the United States have demonstrated a 200 percent increase in rhizome col-

lection over manual systems — allowing the opportunity for regional nurseries to more efficiently expand to meet the demand for both solid and liquid fuel conversion.

The new planter demonstrates a more uniform stream of rhizomes, enabling plant placement at a rate that matches rhizome weight, quality and ground conditions. The four-row planter incorporates separate feed hoppers and placement channels enabling it to be used for both two-row nursery work and larger scale plantations.

The harvester does bulk lifting of rhizomes on a continual basis with a patented one-pass digging head and oscillating de-soiler. Rhizomes exit via bulk side discharger conveying rootstock to an adjacent trailer. The speed of extraction allows faster transfer of rhizomes to storage which is a real benefit given the seasonal weather restrictions and narrow window of time that may prevail during the rhizome winter dormancy period.

The Nursery Package is also supported by a software management package that allows nurseries to register and trace energy crop production.

The harvester and planter package will be available for licensed U.S. and EU nurseries in 2010 and will be available for expanding grower crops for the 2011 season.

Timothy Mies, Deputy Director of Operations at the Energy Biosciences Institute at the U of I, said, "When this project started, the propagation of rhizomes was done with shovels and lots of manual labor. These machines will take miscanthus production to a new level." Δ



Link Directly To: **SYNGENTA**