FINAL PROJECT REPORT
WTFRC Project Number: N/A – Internal

Project Title: Apple Rootstock Propagation-G.41

PI: **Tom Auvil**
Organization: WTFRC
Telephone/email: 509-669-3060 auvil@treefruitresearch.com
Address: 1719 Springwater Ave.
Address 2:
City: Wenatchee
State/Province/Zip WA 99801

Cooperators: Gennaro Fazio

Total Project Funding: $30,000

Budget History:

Item	**2007**		
Stemilt RCA room rental			
Crew labor			
Shipping			
Supplies			
Travel			
Miscellaneous			
Contingency fund for Propagation of G.41	$30,000		
Total	**$30,000**		

Footnotes:

OBJECTIVES:

1. Evaluate the status of G.41 propagation. Determine what barriers of a technical nature are preventing propagation of commercial volumes of rootstock liners.
2. Generate interest in research project to reduce or eliminate barriers.

Significant Findings:

- Barriers to production:
    - Cost of liners started in stand-alone TC labs are too high for rapid layer bed planting.
    - Tissue Culture production is too low. 500 liners of G.41 have been released to greenhouse after 8 months in Tissue Culture production.
    - Liner production is limited mostly due to poor rooting trait of G.41
- The tissue culture labs being favored to produce G.41 do not have mist bed or greenhouse facilities. Customers purchase the x-plants from the tissue culture lab and arrange to have them shipped to a mist bed/greenhouse facility to be placed into potting mix, then mist bed, and finally into the greenhouse to grow into a liner that can survive outdoor environments. The Customer stands all losses. This format pushes the cost to nearly $3.00 per liner.

Layer Bed Licensees:

- Willow Drive Nursery – All available plant material going back to layer beds. A few G.11 are being grown for finished trees in 2008. Have ordered 65,000 G.41 tissue culture liners; have received 500.
- Treco – G.41 layer bed removed due to mixed plant material from Cornel. Will be re-establishing the G.41 layer bed.
- Willamette – Oregon
- Cummins Nursery –New York

Tissue Culture Licensees

- North American Plants in Lafayette, Oregon. Is developing G.41 and G.935 lines. NAP has greenhouse and mist bed facilities. Tissue Culture production of OHxF 87 is successful and liners cost about $1 each.
- Microplant – Not producing apple rootstocks at present time.
- Phytocel –New York. X-plants are shipped to a nursery. Current price is about $1.25 for a plantlet with two root nubs.

Project solicited:

- Amit Dhingra proposed a project in December 2007 experimenting with an improved recipe, alternative medias, different light media and automated phasing. Plus combinations of the various alternative treatments.