Will Cooperation Be as Important as Competition for the Future Success of NY Fruit Growers?

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I came to Cornell Cooperative Extension with a very unusual horticultural background and little tree fruit experience. For this reason, I attended the 2009 International Fruit Tree Association (IFTA) pre-tour and annual conference in Europe to accelerate my technical training for future educational programs in cultural practices in Western New York. This report is a summary of my observations from visiting Austria, the Czech Republic, Slovakia, and Germany (followed by a self-organized sweet cherry study trip to Norway) for a three week period. I have made an effort to bring up the main highlights from each country visited and finalize them with a take-home message answering the question asked in the title above.

"At the IFTA conference in Germany there was extensive discussion of managed apple varieties. The new models of managed club varieties will require cooperation among growers from different climates and countries. In the future cooperation will be as important if not more important than competition for the future success of NY fruit growers. For this reason, we recently launched a young growers initiative in NY State to which we invite all young growers at the beginning of their careers to participate."

IFTA Pre-tour

Our tour began in Vienna with 64 fruit growers, scientists, and nursery representatives from Mexico, Canada, and five states of the U.S. We had eight days of technical visits to breeding programs, nurseries, orchards, packinghouses, and storage and processing facilities in Slovakia, Austria, the Czech Republic, and Germany.

At the beginning of the tour we were introduced to the history of fruit production in Slovakia (a country of five million people) in central Europe after the collapse of the Soviet Union in 1989. Slovakia has been a member of the European Community since 2001 and has average labor costs 15% lower than the rest of European countries, according to the general manager of Boni Fructi. Only Poland has lower labor costs than Slovakia among European countries. For example, pay rates at Boni Fructi for a full time orchard worker were five euros per hour at the time of our visit, seven euros per hour for a tractor orchard worker, and five euros per hour for fruit picking. The manager (a young Slovak entrepreneur who learned fruit production when working as an orchard worker in western Europe) and his partner from

Figure 1. IFTA group visiting a high-density sweet cherry production at Boni Fructi. Wind protection net (left side) and hail/rain protection structure (wires and metal poles). Bratislavia, Slovak Republic.

Belgium, own this company located in Bratislavia (pop. 700,000). It is strategically well located in the center of Europe with easy access to other big markets such as Vienna and Budapest. The company owned approximately 245 acres of fruit orchards (176 acres apples, 49 acres sweet cherries and 20 acres pears). For the past three years, all new high-density plantings have included the use of hail nets for cherries and apples and rain covers for the vertical axis trained sweet cherry trees on Gisela 6 rootstock (Figure 1).

The Czech Republic has 21,600 acres of apple orchards, 4,383 acres of sour cherries, 3,260 acres of apricots, and 2,680 acres of plums. Almost half (47%) the country's orchards are old. Just 7% of the total acreage has new plantings. We visited an orchard near Brno owned by the Zemos company, which had more than 400 acres of apples, pears, and apricots. Before 1996, this company used vigorous rootstocks and old training systems. Today, it is replanting about 40 acres each year using dwarfing rootstocks and modern training systems (we were told it was Solaxe) with trees three to four feet apart and 12 feet between rows. The main apple varieties were Golden Delicious, Idared, Gala, and Jonagold. This country was one of the most active countries in terms of developing new disease-resistant apple varieties (Figure 2). In Plzen we visited the largest nursery in the Czech Republic owned by Pavel Fytos. He introduced us to the sweet-tart apple Topaz variety (widely grown by Europeans and by some growers in Western NY), Sampion (an old Czech variety spelled Shampion and for sale at 1.99 euros per kilo in Dresden, Germany), and Bohemia. We also learned about a new semi-dwarfing stone fruit rootstock "Wawit" from Germany, which has shown excellent results with apricots.

In Austria we visited the Haidegg research station where they are testing the effects of different anti-hail net systems (Frustar™, Wiesel™) and the influence of different colors of hail nets (white, grey, and black) on yield, skin color, sugar content, and firmness

Figure 2. Luna variety (Topaz x Golden Delicious); Bred by the Institute of Experimental Botany in Prague, Czech Republic.

Figure 3. Massive use of hail net protection observed at the Styrian Apple region in Austria.

of the flesh. We sampled new varieties such as Evelina (Pinova mutant, German origin), Kanzi (Gala x Braeburn, Belgium origin), Mairac or La Flamboyante (Gala x Maigold, Swiss origin), Junami ((Idared x Maigold) x Elstar), Swiss origin), and a good tasty red Italian variety called Modi (Gala x Liberty). Then we visited the 16-miles long Styrian Apple region where hundreds of acres of apple orchards were protected with hail nets (Figure 3). It was impressive!

In Germany we were received by Dr. Viola Hanke at the Federal Research Center for Cultivated plants (JKI Institute) in Pillnitzer-Dresden, Germany (Figure 4). It was named in honor of Professor Dr. Julius Kuhn who established and developed agricultural sciences as part of college education in Germany. The Institute is an independent higher education federal research institution and a part of the national research system which has 15 research centers, 1150 staff, and more than 1000 acres dedicated to research plots. The major areas of research are: plant genetics, agronomy, plant nutrition, soil science, plant protection, and plant health. Dr. Hanke (who spent a sabbatical leave at the Geneva Research Station years ago) directs the institute for fruit breeding. Here we tasted six new apple varieties (Pikosa, Pilana, Pisaxa, Pivita, Recolor, and Rekarda) (Figure 5) and learned about the new red strain of Pinova variety known as Evelina in Europe. Pinova was bred at this station and released in Germany in 1986. Pinova is also known in the US as Piñata and has been managed by Stemilt Growers in Washington since 2003. We were also informed about new sour cherry varieties with higher tolerance to *Monilia laxa* such as Rubellit, Spinell, Achat, and Jade, and a good dwarf rootstock for sweet cherries called Piku 4 (currently being tested at the Geneva Research Station). We also visited the greenhouse facilities and toured the 85 acres for fruit breeding (pome and stone fruits, berries, nurseries, and a plant genetic collection). The Pillnitz-Dresden research station began fruit breeding in Germany in 1922 and currently conducts cultivar and rootstock breeding for apples, sweet cherries, sour cherries, and strawberries.

Figure 4. Neal Manly of Willow Drive Nursery, WA, tasting new apple varieties with Canadian fruit growers at Pillnitz-Dresden, Germany.

New Pi- and Re-varieties from the apple breeding program at Dresden - Pillnitz

Pi-varieties	Year	Re-varieties	Year
Pivos	1985	Remo	1990
Pimona	1985	Reglindis	1990
Pinova	1986	Rewena	1991
Pikant	1988	Retina	1991
Pilot	1988	Reanda	1993
Piglos	1990	Relinda	1993
Pikkolo	1993	Rene	1993
Pia	1996	Renova	1996
Piflora	1996	Rebella	1998
Pingo	1996	Regia	2000

Figure 5. Pi- and Re- varieties released at the Dresden-Pillnitz fruit breeding program in Germany.

Number of US representatives by State at the 2009 IFTA Annual Conference, Germany

US State	# of participants
Washington	29
New York	11*
Michigan	11
Pennsylvania	9
California	8
Minnesota	7
Ohio	5
New Jersey	5
Oregon	2
Nebraska	2

* Represented by 4 Cornell employees and 7 Western NY fruit growers

Figure 6. US participants attending the 2009 IFTA Annual Conference, Germany.

2009 IFTA Annual Conference

After we finished the pre-tour in Dresden, we traveled by train to Postdam, Germany, and joined the 52nd International Fruit Tree Association Annual Conference. All together we were 250 participants, with 89 coming from the U.S., mostly from Washington State (29 participants), followed by participants from NY, MI, and PA (Figure 6). Other participants came from Chile, Mexico, New Zealand, South Africa, Australia, Canada, Russia, and Europe. By the end of the conference I noted that more scientists, consultants, and nursery, hail net, and media representatives attended the conference than European fruit growers. I did become acquainted with a few fruit growers from South Tyrol, Italy, who grew an Italian variety called Kiku (a mutation of Fuji) and others from Germany.

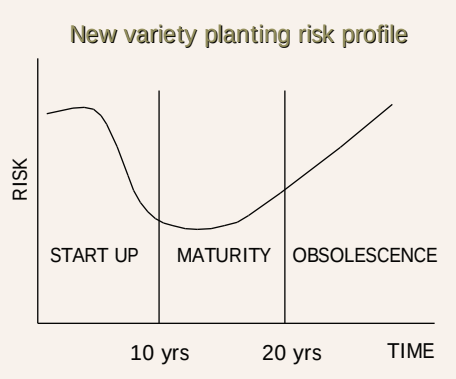

Figure 7. New variety planting risk profile versus time presented by Paul Paynter, a New Zealand fruit grower and packer, at the managed variety session, Postdam, Germany.

The three-day conference focused on horticultural economics, emerging markets, new varieties/rootstocks/systems for apples, pears, and cherries, and organic fruit production in Europe. More than 15 invited speakers from all the continents, including Dr. Terence Robinson from Cornell University, spoke at the conference. Topics ranged from "How European countries are changing with respect to the tree fruit industry and global economy" to "Developments in emerging markets such as Russia, Far East countries, South America, and the Pacifics" to "Evaluation of Fire Blight-tolerant apple rootstocks in Switzerland."

Of great interest to many participants was the presentation of Mike Knowles, from Eurofruit Magazine, England. The speaker mentioned that when identifying new consumer markets it is important to consider whether a country has a sizeable population, high GDP, an increase in fresh fruit imports, and a significant retail expansion. Currently, China, Brazil, Vietnam and Russia show this pattern. The speaker indicated that overseas suppliers need to be aware that China is a very quality-conscious market and very particular about appearance, especially for fruit imported directly into North regions in China. "The US market will probably feel strong competition on the same products and at the same time with China in the following years" he said.

The Conference culminated with a panel discussion about the progress of club varieties (Ambrosia™, Cameo®, Juliet®, Junami®, Kanzi®, Kiku®, Mairac®, Opal®, Piñata®, Pink Lady®, Rubens®, and SweeTango®) and future trends. Variety managers provided the ins and outs of being part a managed club variety and explained the benefits for all parties involved (growers, packers, marketers, and consumers). Most of the European variety models are based on a bicolor variety, a well suitable growing region for the variety, a strong marketing plan, and a global commercialization strategy with the goal of offering to consumers an excellent product.

The uncertainty, or dark side of the coin (called "Pandemonium"), was provided by Paul Paynter from New Zealand (Figures 7 and 8). He mentioned that new varieties can be a fast way to go broke. To be able to succeed you must be able to control the marketing inputs (few growers), influence the marketing outcomes, and mentioned that this model suits integrated businesses. During his presentation he said "you do not want a marketer with skin in the game so much as his head on the block". The presentation concluded that supermarkets are not driving the planting decisions: "it is still a push strategy in New Zealand" he said.

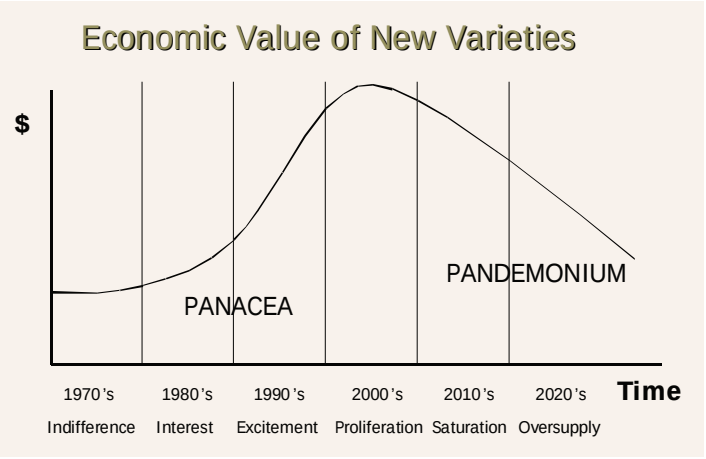

Figure 8. Release of new varieties is probably at its peak at this moment according to Paul Paynter from New Zealand. By 2010, the market could be saturated, and by 2020 it could be oversupplied.

Figure 9. Sweet cherry production region located in Lofthus, Norway.

Norway

After finishing the Annual Conference, I continued my study trip to Bergen, Norway where I visited the Ullensvang Research Center for sweet cherry production in Lofthus (an impressive fruit region located in the second biggest fiord in the country, Figure 9). Norway (pop. four million) does not have a breeding program in sweet cherries. However, since 1959 the center has conducted an extensive evaluation program testing varieties from Europe, USA, and Canada. Currently the following cultivars are recommended for early season (Burlat, Moreau, Merchant), for mid-season (Giorgia, Chelan, Samba, Techlovan, Van) and for late season (Lapins, Kordia, Regina, Sweetheart). Rain cover systems are important to produce high quality sweet cherries without cracking in a climate like Norway's. During the ripening season (July 1 – August 15) the average precipitation in this area is four inches. The most common rain cover protection system has been the "one-wire system" consisting of wooden poles spaced about 40 feet apart in the row and a high tensile wire on top of these poles. A more advanced construction system tested at this station is the "three-wire system".

Fruit Prices in Europe

I was able to visit fruit stands and small supermarkets to check fruit quality, varieties, and prices (Figure 10). Minimal prices ranged from 1.79 euros per kilo for Gala, Pinova, Golden Delicious, Rubinette, Boskop, or Elstar and 1.99 euros or more per kilo for Braeburn or Pink Lady. In Dresden, prices were even higher for Pinova, Shampion, Fuji, Elstar, and Braeburn at 1.99 euros per kilo, 2.49 euros per kilo for a Golden or Red Delicious, and up to 2.99 euros per kilo for a Pink Lady. In Germany, fruit prices in Berlin's fruit stands and supermarkets were higher than in Dresden. Norwegian fruit prices were the highest.

Summary

Many U.S. growers with whom I talked after the managed variety session mentioned that it was the most important and valuable, but confusing session of all at the 2009 IFTA conference. The managed variety topic has future implications for NY fruit growers. I came to appreciate that cooperation between growers from different climatic regions or countries is as important as competition. This type of cooperation was evident in Scandinavian countries, but in a different context. I learned that Denmark (the world's largest wind-energy producer) can buy power from its neighbors when there is no wind and sell power back to its neighbors when the breeze blows!

The model of introducing new varieties into the NY industry will be changed in the following years. It will offer opportunities for real partnerships among growers of all sizes with retailers, variety managers, and universities. To be a participant in this new model you will have to convince variety owners that you have vision and a good business plan. You will have to engage and network with the correct partners. Future success of these models won't be based on the intrinsic attributes of the variety so much as how you manage and market it. If you are interested in these models, you will have to be a good cooperator to make it happen. I am also confident that some innovative small growers will be able to benefit from these models. If you are proactive, the managed variety option will be a good opportunity to explore.

The lesson I learned in Europe was simple. Cooperation between NY fruit growers is critical to remaining competitive fruit growers in a global economy. Networking between experienced and less experienced growers will facilitate coordination and cooperation for mutual benefit when adopting new and expensive technologies (managed varieties, high density systems, hail nets, rain covers, or orchard platforms) in the near future. For this reason, we recently launched a young growers initiative in NY State. We discussed the idea of organizing a fruit grower group in Western NY at our last advisory committee meeting. Many young fruit growers attended this meeting and participated in the discussion. This new generation of growers is looking to connect with each other and learn from more experienced growers when making planting decisions. At the moment this initiative does not have a name but a working group was organized. This effort, which will be lead by Cornell Cooperative Extension, is currently recruiting young fruit growers at the beginning of their careers. We are also looking for experienced fruit growers who can relate as mentors to the less experienced ones. Initially the grower group is being launched in Western NY but we hope to expand it to include young growers in the Champlain and Hudson Valleys.

Figure 10. Pinova (called Piñata in the US) priced at 1.99 euros per kilo. Golden Delicious (right side) priced at 2.49 euros per kilo as observed at a fruit stand in Vienna, Austria on January 23, 2009.

So, I definitely say yes to the initial question. Cooperation will be as important if not more important than competition for the future success of NY fruit growers. I am sure this new mind-set for cooperation has already started among NY fruit growers. It is not too late to start now if you want to be a cooperator.

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Suggested Reading

Warner, G., 2009. The 2009 IFTA Study tour and a detailed description of new varieties at the *Good Fruit Grower Magazine*, April 1 2009. Pages 18, 19, 27, 28-29, and 31-39.

Brown, S. 2009. Cornell seeks input on variety release. *Core Report* Volume 16, Issue 10. (This article provides information on two new apple varieties soon to be released by Cornell.)
Brown, S. and K. Maloney. 2008. Scab-resistant cultivars (varieties). *New York Fruit Quarterly*. Vol. 16: 3-6.
Merwin, Ian. 2008. Some antique apples for modern orchards. *New York Fruit Quarterly*. Vol. 16: 11-17.

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