

Highlights of IFTA Italy Study Tour, November 2022

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From November 11-19, 2022, I had the good fortune to attend the IFTA Italy Study Tour, Bologna to Bolzano. During the orchard visits, I posted a real time highlight from each orchard stop on the IFTA Facebook page (Fig. 1), but I will bounce off those with photos and a bit more detail here.



Figure 1. IFTA Facebook Page, <https://www.facebook.com/IFruitTree>

Starting off in Bologna, I spent a day at EIMA International 22, the International Agriculture and Gardening Machinery Exhibition (Fig. 2). Simply huge, mostly indoors, many themed buildings. I found a couple toys I wanted, of course I have no money to actually buy them, but it was fun looking.

While still in Bologna, in lieu of spending another day at EIMA, I chose to go with Greg Lang (IFTA Education Director) and a sub-group of circa 40 grower-attendees to (one of) the University of Bologna research farm(s). First stop with Assistant Professor Luigi “GiGi” Manfrini was to look at various peach multi-leader/variety training blocks (Fig. 3). Hmmm,



Figure 3. Luigi “GiGi” Manfrini showing us multi-leader peach training at University of Bologna research orchard.



Figure 2. EIMA International Agriculture and Gardening Machinery Exhibition, November 9-13, 2022.

interesting, I have to say there were a lot of questions here, not always answered, but our host definitely expressed some frustration with tree establishment and getting those many-

leaders (certainly called UFO in stone fruit?) going at uniform spacing and size. I got the impression it was a hands-on experiment.

We also looked at some apples, first with Professor Luca Corelli Grappadelli, an experimental block of trees where the primary objective was disease control (scab and fire blight) by covering the orchard thus eliminating “wetness” (Fig. 4). Unsure how successful it was, but I did notice woolly apple aphids seem to love that protected environment. Corelli also showed us a rover/



Figure 4. Luca Corelli Grappadelli and “GiGi” Manfrini show us disease prevention and multi-leader experimental apple blocks respectively at U. of Bologna research orchard.

robot with autonomous navigation they are working on with an industry partner, purported to have multi-functionality (sensors, flail mowing, etc.) and there was some discussion with him and GiGi about a “smart specialized sustainable” orchard. GiGi also showed us a multi-leader (UFO or ‘guyotte’) apple system trial. It looked pretty good, I am thinking UFO looks better in apples than stone fruit? And, first detecting a theme here going forward, the sustainable smart orchard and multi-leader trees...

Departed and on the way to Venice for a tourist day, we did a couple orchard stops. First a cherry variety/training system by Salvi Vivai nursery (Fig. 5). It was



Figure 5. Covered (to prevent rain cracking) experimental sweet cherry variety/rootstock demonstration orchard by Salvi Vivai nursery.

interesting, and I could relate, but not sure what my take-home is/was? Makes me want to grow cherries again, but planting them very close together (SSA?) and on Gisela 3 or 5 rootstocks (depending on variety)? Note to self: don’t be a glutton for punishment, just-don’t-do-it!

And then a significant planting of ‘Rosy Glow’ Pink Lady (Cripps Pink cv.) which had not been harvested yet. (Or it might have been first picked?) This was at the Mazzoni Group, a large multi-crop agriculture farm and fruit tree nursery (Fig. 6). Again with some different training systems, bi-baum, guyotte(?), etc. Sorry for lacking detail here. I could not help wondering with the heavy crop load if there would be a return bloom? Interestingly, fruit cracking was a significant issue (Fig. 7), I assume because of the rather wet spring and early summer weather (hot and dry followed by rain?) they seem to have? It was worse, they said in the tops of trees.

In the afternoon, we visited C.I.V. - Consorzio Italiano Vivaisti, apple and strawberry breeders “we enhance nature” and nursery (Fig. 8). Think CIVG 198 Modi®. Oh, what can I say? Focusing on “sweet and sustainable” varieties. I’d say half or more of the new apples they showed us were scab-resistant. We taste-tested a dozen or so new apple varieties in their portfolio, many of them numbered so not in orchard production yet. They ranged from “meh” to “pretty good.” And got a look at some of their larger plantings for variety evaluation. We could look but not touch...

Departing Venice headed to Bolzano, we had a choice of going on a just-apples (Jeff Cleveringa lead) or an apple-cherry tour (Greg Lang lead). Actually being a glutton for punishment, I chose the apple-cherry tour. Sorry again, lacking many details here, but I will do my best. First stop was an experimental orchard site that (apparently) was a collaboration of Societa Cooperativa Agricola and the Edmund Mach Foundation (Fig. 9), which “promotes and carries out research, scientific experiments, education and training activities as well as providing technical assistance and extension services to companies.” We got a talk about apple production practices in the Trentino region from Tommaso Pantezzi, Centro Trasferimento Tecnologico, Fondazione Edmund Mach – Istituto Agrario San Michele all’Adige, and Nicola Andreotti, from Fondazione Edmund Mach. (It might, however, be the grower whose orchard we were in according to Greg Lang?) Also, we



Figure 6. Still to be harvested Pink Lady cv. 'Rosy Glow' at the Mazzoni Group. Note hail nets, a standard practice in Italian apple orchards.



Figure 7. Close up of Pink Lady cv. 'Rosy Glow' at Mazzoni. Note unexplained cracking of apples, but it might be their humid weather conditions in the region.



Figure 8. Variety demo and tasting of named and numbered C.I.V apples followed by tour of variety evaluation apple orchard blocks.



Figure 9. Societa Cooperativa Agricola and the Edmund Mach Foundation hosts in commercial apple orchard blocks in Trento region, including multi-leader.

saw MORE multi-leader 'guyotte' style apple trees!

For the cherry stop, up the road a ways, we were (after a long hike uphill) hosted by Angela Gottardell,

Centro Trasferimento Tecnologico, Fondazione Edmund Mach – Istituto Agrario San Michele all'Adige in a cherry systems trial (Fig. 10). The usual suspects, spindle, bi-axis, KGB (Kym Green Bush), and SSA (super slender axe). Looked like SSA and bi-axis were outperforming (in terms of cumulative production) the KGB and spindle. Would have been interesting to see these trees pre-harvest.

Last orchard stop before landing in Bozano was the Laimburg Research Centre (Fig. 11). After an introduction by Dr. Walter Guerra, head of the Institute for Fruit Growing and Viticulture, three research orchard block visits stood out. First, the Laimburg Integrated Digital Orchard, LIDO for short. Not to be confused with LIDAR, LIDO is an outdoor orchard 'laboratory' focusing on "the latest, state-of-the-art technology available on the market." Just planted with 'Rosy Glow' Pink Lady trained as 'guyotrees' the orchard was equipped with all sorts of sensors communicating over a long range low power wireless network. Also an overhead, fixed spraying set up for pest control. Checked all my boxes. Next a robotic harvester was a big hit with the group, however, it was in a test stage demo mode, yup, it picked apples. That's all I can say. Far more interesting to me was the training system demo by Dr. Christian Andergassen, fruit physiologist at Laimburg (Fig. 12). There he was comparing apple yield and quality of Fuji and

Pink Lady apples grown to traditional (for Italy) tall-spindle vs. various multi-leader approaches, including 'bi-baum' and 'guyotree.' Bottom line through the early production years? Fruit quality and yield was superior in the many-leader 'guyotree' system. He pointed out, however, that it depends on variety, Fuji being more vigorous and being less suitable to many leaders than Pink Lady. I think anyway...

We finally made it to Interpoma 2022, the apple trade show (Fig. 13). Words can't quite describe, suffice it to say it is THE International trade show about all things apple and pear, but of course with a focus on what's going on Italy-centric. I should do a word cloud about Interpoma. Wait, maybe I will! Followed by a few pics from the venue, Fiere Bolzano...



Figure 10. Angela Gottardell, Fondazione Edmund Mach – Istituto Agrario San Michele all'Adige hosts us in a cherry systems trial.



Figure 11. Laimburg Integrated Digital Orchard (LIDO) “smart” orchard equipped with sensors of all sorts and overhead fixed spraying plumbing.

I do want to thank IFTA (of course), Onward Travel (Molly, Kat, and Barbara), Greg Lang (IFTA Education Director), Jeff Cleveringa (IFTA President) for putting this together and (mostly) pulling it off without a hitch. 150 are a lot to herd and keep happy. Highly recommended if you have the opportunity to go on a future IFTA International Study Tour led by Onward Travel, wherever you go? (Hint: Norway, South Africa?) And thanks to Jim Krupa for putting up with me as his roommate for eight nights! For a bit more on my IFTA excursions, including this study tour to Italy, visit my [jmccextman](https://jmccextman.blogspot.com/) blog: <https://jmccextman.blogspot.com/>



Figure 12. Dr. Christian Andergassen, fruit physiologist at Laimburg is comparing apple yield and quality of Fuji and Pink Lady apples grown to traditional (for Italy) tall-spindle vs. various multi-leader approaches.

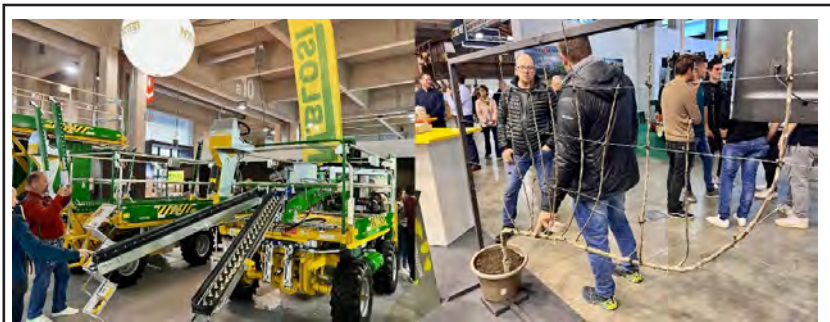


Figure 14. Trade show vendor booths at Interpoma: N.Blosi platforms and ‘guyotte’ multi-leader apple tree.



Figure 13. The “apple variety garden” trade show club apple variety vendor booth at Interpoma, November 17-19, 2022, Bolzano Italy.

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