

Travel Report:

Visit to USA

June 2025



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1. Objectives of the visits:

- To **attend the XV International Symposium on Plant Bioregulators in Fruit Production in Chicago, IL** to stay abreast of the newest developments in the field of plant growth regulators.
- To **visit the pome fruit production regions in New York and Michigan.**
- To **visit Cornell University: Cornell Agritech in Geneva, New York and Michigan State University: Clarksville Research Center** to familiarise ourselves with their research on pome and stone fruit.
- **To build relationships** with researchers, technical experts, and industry members in New York and Michigan.

2. Touring party members:

- Wiehann Steyn (Hortgro)
- Marno van der Westhuizen (Hortgro)
- Graeme Krige (Two-a-Day)
- Keith Bradley (Fruitways)
- Karen Theron (Stellenbosch University)
- Nico Ferreira (Two-a-Day)
- Werner Truter (Philagro SA)
- Tarina du Toit (Philagro SA)

3. Executive Summary

A group of South Africans traveled to the United States in June 2025 to stay informed about the latest developments in plant growth regulators, gain deeper insight into current research on pome and stone fruit, and strengthen relationships with researchers, technical experts, and industry members in New York and Michigan. The programme included tours of pome-fruit production regions in New York and Michigan, a visit to Cornell AgriTech in Geneva, and attendance at the XV International Symposium on Plant Bioregulators in Fruit Production in Chicago.

1. Visits to New York and Michigan

Industry, Market and Production Context

- Washington State has seen increased equity-fund ownership of orchards due to the profitability of cultivars like Honeycrisp®, though overplanting has reduced carton prices from \$35 to \$25. New York's orchards remain mostly family-owned and in a better position.
- Labour costs are high (R460/hour) with reliance on the H-2A programme. Production costs are approximately R1775 per 360 kg bin, with a minimum return of R2660 per bin required to break even.

Rootstocks and Orchard Practices

- All apple rootstocks at Cornell AgriTech are tested twice for viruses and undergo genetic testing to confirm true-to-type identity. Citrus concave gum-associated virus and two apple rubbery wood viruses are most damaging to sensitive rootstocks. *Gerhard Pietersen and the DPA were informed for follow-up.*
- Gennaro Fazio indicated that G.757 shows similar growth regardless of viral infection.
- Soil pH significantly influences rootstock nutrient profiles and must be considered when planting.
- Gennaro and Terrence Robinson highlighted two rootstocks as promising for us:
 - G.214: Good dwarfing potential, woolly apple aphid resistance, no known virus sensitivity.
 - G.257: Similar vigour to G.890, suited to multi-leader systems, low chill requirement, large fruit. *SAPO will import G.257 in September 2025.*
- Growers are increasingly planting Geneva® rootstocks due to their precocity, fire blight resistance, and replant tolerance.
- In Michigan, mounding soil around the base of the tree up to the graft union at planting is a common practice to improve the root environment.

Training Systems

- Apple orchards generally feature narrower, more efficient canopies and row widths, for the advantage of improved fruit quality and labour efficiency.
- Riveridge Land Company, the largest grower of apples and sweet cherries in Michigan, uses two cherry training systems: a V-trellis and a multileader system, targeting 17–20 t/ha, with investment remaining viable at 12–14 t/ha.
- A peach grower in Michigan observed that perpendicular V-systems may require up to six picks due to uneven ripening, while fruiting-wall V-systems reduce this to about three picks.

Pests and Diseases

- Key challenges include apple scab, increasing woolly apple aphid pressure, likely due to chemical resistance, and bitter rot.
- Brown marmorated stink bug is present in the orchards, though damage has been minimal.

- Spotted wing drosophila affects cherries and creates entry points for brown rot. It is managed through exclusion netting.

Organic Production

- Kyle Rasch from Third Leaf Farm, an organic farm, noted that organic fruit for processing typically earns two to five times higher than conventional alternatives, though production costs are 20–40% higher. *Kyle would be an excellent speaker for the symposium on commercial organic apple farming.*

2. XV INTERNATIONAL SYMPOSIUM ON PLANT BIOREGULATORS IN FRUIT PRODUCTION

Key Learnings

- ACC is effective as a thinning agent in peaches, nectarines, apricots, sweet cherries, and late-thinning apples.
- ACC uptake sites differ by fruit type: pedicels in peaches and primarily leaves and fruit in apples.
- Acibenzolar-s-methyl (ASM), which acts as a systemic acquired resistance inducer, improves the response of apple trees to flood stress by enhancing leaf function and increasing survival rates. It also increased resistance to ambrosia beetle attack in flood-stressed dogwoods under simulated conditions. *W Steyn has informed M Karsten of ASM as a potential tool to manage Polyphagous Shot Hole Borer.*
- Calcium transport is limited to xylem vessels, which gradually lose functionality as the fruit matures. Treatments with NAA or ABA significantly reduced bitter pit incidence in Honeycrisp® apples by extending xylem functionality. NAA was already being used by some growers in Michigan for this purpose.

4. Visits in New York:

16 – 17 June 2025

Hosts

- Prof. Gennaro Fazio (Professor, School of Integrative Plant Science, Horticulture Section, Cornell AgriTech, Cornell University), Bill Pitts, (Independent horticultural consultant) and Bill Dodd (President, Midwest Apple Improvement Association).

Observations

Cornell Agritech, Geneva NY – Profs Gennaro Fazio, Terrence Robinson and Susan Brown

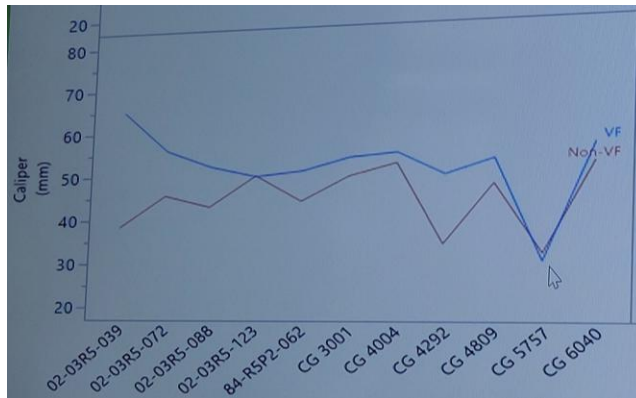
General Insights:

- Gala and Honeycrisp® are currently the top two marketing cultivars in the USA.
- Susan noted that Cosmic Crisp® is already becoming a commodity, after a ±\$12 million marketing campaign.
- Terrence mentioned that a growing share of Washington State's orchards are now owned by equity funds, largely due to the high profitability of cultivars like Honeycrisp®. However, he noted that the cultivar is now overplanted, and carton prices have dropped from \$35 to \$25.
- New York's apple industry appears to be in a better position than Washington State's, with many family-owned operations still active.
- Terrence highlighted the volatility of the market, giving an example where Walmart decided to stop purchasing Ambrosia™ apples a few years ago, leading to the removal of many orchards.

Viruses:

- Gennaro indicated that all apple rootstocks are tested twice for viruses and undergo genetic testing to confirm true-to-type identity.

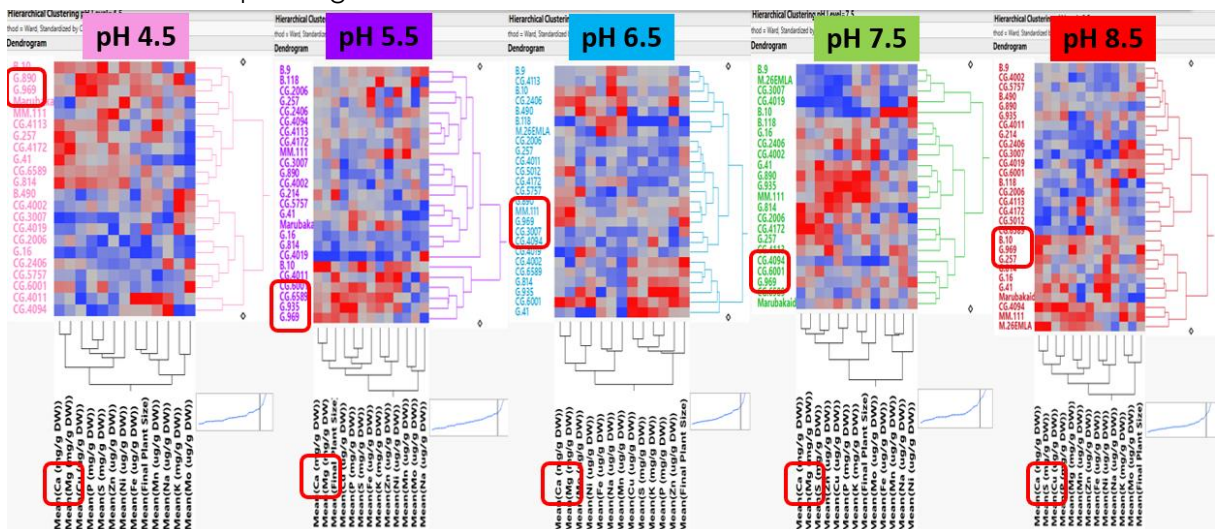
- Of the viruses tested, citrus concave gum associated virus was found to have the most severe effect on sensitive rootstocks. Closely following citrus concave virus in severity are the two apple rubbery wood viruses. **Gerhard Pietersen has been notified and will follow up with Gennaro. The DPA has also been notified.**



G.757 demonstrates similar growth regardless of viral infection.

Rootstock Properties:

- Gennaro noted that the cross between Ottawa 3 and Robusta 5 appears to be the most successful, with many promising traits being imparted to the scion by the hybrid rootstock.
- Soil pH has a significant effect on the nutrient profile of rootstocks and should be carefully considered when planting.



An indication of how mineral nutrient absorption changes with pH.

- Tracer is a handheld X-ray fluorescence (XRF) device used to measure mineral nutrient concentrations in apples, leaves, and stems. It has potential applications in packhouses, allowing for non-destructive nutrient analysis — however, it comes at a significant cost of approximately \$5000 USD.



- Gennaro mentioned that G.41 is still a good rootstock once you get past the initial stage, where the graft union is brittle. He noted that the weak union is primarily due to auxin. They trialed prohexadione-calcium to reduce auxin flow, which increased the graft union strength. It was also noted that this hormonal effect could potentially be reduced by girdling above the graft union.
- Terrence mentioned that they observe more suckers and burr knots on rootstocks propagated through tissue culture than those from layer beds. However, trees from tissue culture show less variation in growth compared to layer beds.



Gennaro and team are busy with an interesting trial looking at a red-leaf crab apple as an interstem. Interstems of 15 cm and 30 cm are being tested on dual-leader trees, where one leader includes an interstem and the other does not. They're measuring the effect of the interstem on hormonal activity, vegetative growth, nutrient uptake, and precocity.

Potential Rootstocks of Interest:

G.214

- Gennaro indicated that they're selling a lot of G.214, and that it may have strong potential for us in the dwarfing rootstock category.
- It is easy to propagate and does not have brittle graft unions.
- Woolly apple aphid resistant.
- No known virus sensitivities yet.
- It is a low-nitrogen rootstock, which may affect green-colored cultivar. It can also exhibit slight biennial bearing.

G.257

- A strong grower with similar vigor to G.890. Terrence indicated it is well-suited for trees with two or more leaders.
- Low chill requirement and produce large fruit.
- We observed some blind wood in a SnapDragon® orchard.
- SAPO will be importing G.257 in September 2025.

Midwest Apple Improvement Association (MAIA) and Reality Research

- MAIA is an organization that develops apple varieties for growers in the U.S. and Canada. We had the opportunity to taste a few of their cultivars, including MAIA-Mitchell (EverCrisp®), MAIA-L (Ludacrisp®), MAIA-RZ (Red Zeppelin®), and a promising, yet-to-be-named selection known as Bill2. According to Ryan Yarrow from Lake Effect Orchards, unlike the standard Gala, which typically requires two to three picks, Bill2 appears to be harvested in one pick.



- Reality Research is an independent research organization that evaluates fungicides, insecticides, plant growth regulators, nutrients, mating disruption strategies, and apple breeding selections. We visited their seedling block, which currently consists of 37 crosses and approximately 9,700 seedlings.



Seedling block at Reality Research.

Wafler Farms – Paul Wafler

- Paul mentioned that their ideal Gala orchard is planted at a spacing of 0.8 m x 3.3 m (3787 trees per hectare), with a yield of 75-80 tons per hectare and a 90+ percent packout.

- They train the trellis wires into the trees to strengthen the overall system. This setup includes three support wires and a top wire, which is used to hold the drape nets – each net covering two rows



- Cameras are mounted on platforms to monitor operational efficiency. They also track parameters such as the speed at which the platform moves, and the number of rows completed. The footage is continuously displayed on televisions, with up to 18 screens used during harvest. It is also shown on condensed screens in the office for live monitoring.



Television screens in Wafler Farms' office and warehouse.

5. Visits in Michigan:

19 – 20 June 2025

Host

- Prof. Gregory Lang (Retired Professor, Department of Horticulture, Michigan State University) and Amy Irish-Brown (Field Market Development Specialist, Valent BioSciences).

Observations

Wittenbach Orchards – Mike Wittenbach

- Wittenbach Orchards is a 4th-generation farm that grows 13 cultivars on 182 hectares in West Michigan.
- They mainly supply the domestic market, with a small amount of fruit exported to South America.
- Harvesting begins in August, and fruit is stored until June. Their harvest time is limited by the onset of cold weather. In the case of EverCrisp®, they've had fruit freeze on the tree due to its late harvest window. However, according to Mike, the seasons seem to get longer, starting earlier and ending later.
- A typical night in January ranges between -12.2 °C and -6.7 °C, with -17 °C considered very cold in the area. The coldest night recorded in the region was -27 °C. Mike also mentioned that hail has become a concern in recent years.
- Wittenbach Orchards' rootstock choices have shifted over the years. While they've planted B.9 and clones of M.9 in the past, most of their planting over the last five years has been Geneva® rootstocks – specifically G.214, G.935 and G.11 – selected for their precocity, fire blight resistance and replant tolerance.
- Labor is their biggest expense, with a minimum wage of R460/hour, and they are dependent on the H-2A programme. They currently have only 12 full-time workers.
- The cost of production at farmgate is approximately R1775 per 360 kg bin, with a minimum return of R2660 per bin required to break even.

- Pests, diseases and sucker control:
 - Apple scab is a major issue for them. They use Captan® (active ingredient: dicarboximide), lime sulfur and Omega® (active ingredient: fluazinam) - the latter being applied during bloom and found to be an effective miticide.
 - Woolly apple aphid has become a significant issue over the past five years, likely due to chemical resistance.
 - Brown marmorated stink bug is present in the orchards, though damage has been minimal. Neighbouring soybean crops seem to attract the pests, reducing the pressure on the apples.
 - Bitter rot (*Colletotrichum* spp.) is becoming a growing problem for them. They currently use Flint® fungicide (active ingredient: Carfentrazone-ethyl) up to petal fall for control.
 - Suckers are successfully controlled using Aim® herbicide (active ingredient: carfentrazone-ethyl).

Third Leaf Farm – Kyle Rasch ("Organic Kyle")

- Third Leaf Farm is a 3rd generation farm that has been producing organic apples for the past 10 years, with 45 hectares in production.
- According to Kyle, 70 tons per hectare is considered a good crop for organic apple production.
- At present, the farm mainly supplies the processing market, producing juice and apple sauce. Kyle noted that organic fruit for processing typically receives a price two to five times higher than conventional alternatives. However, he estimates that the production costs for organic farming are 20-40% more than conventional. **Kyle would be an excellent speaker for the symposium on commercial organic apple farming.**
- The farm is actively working to expand into more fresh markets that recognize the value of organic production and are willing to pay a premium for the product.
- Weed, pest and disease management:
 - Weed control is done exclusively through mowing, no herbicides are used.



Third Leaf Farm's weed mower.

- Kaolin clay is applied to manage moths and weevils.
- Beneficial insects are used for woolly apple aphid control. Kyle mentioned they haven't needed to spray for it for 6 years.
- Pheromone disruption is used against codling moth, oriental fruit moth and dogwood borer.
- Brown marmorated stink bug is controlled with Spinosad®.
- Rosy apple aphid is managed by pruning out the affected branches.



Example of rosy apple aphid damage.

- To deter deer, the farm uses Whiff® soap bars and garlic diffusers.



Example of the Whiff® deer deterrent and a garlic diffuser.

Hart Farm – Chris and Kim Kropf

- Chris is a sales representative for Valent BioSciences and part-time farms 56 hectares of apples.
- We visited a Wildfire® Gala block where the fruit appeared noticeably larger compared to neighboring orchards. Chris attributed the size partly to the sport itself and partly to proper nutrient and hormone management, specifically through sufficient applications of calcium nitrate (CaNO_3) and a combination of GA_{4+7} + 6-BA.



The Wildfire® Gala block planted on M.26 at a spacing of 3.6 x 0.9 m. Chris aims for an average yield of 67 tons per hectare with a packout of 80-85%.

- The main rootstock used on the farm is B.9, as Chris finds it more tolerant to chilling injury



The noticeable vigor difference between B.9 and M.9 Nic 29 (B.9 front and M.9 Nic 29 back).

- A common orchard practice observed in this region is mounding soil around the base of the tree at planting, up to the graft union. This is believed to improve the root environment.



An example of the impact of this technique after the mounded soil had eroded over time.

Riveridge Produce Marketing – Justin Finkler

- Riveridge Produce Marketing is the largest grower of apples and sweet cherries in Michigan. Its farming division, Riveridge Land Company, grows 485 hectares of mainly apples and cherries. The operation is situated in the region known as “The Ridge”, where an estimated 60% of Michigan's apple orchards (roughly 10 100 hectares) are situated.

Apples

- The apple orchards are primarily trained to a V-system, chosen for its efficiency and compatibility with harvesting platforms. Yields typically range between 80-100 tons per hectare, with an 80%+ packout percentage.



An example of the V-system planted by Riveridge Land Company. The suckers are controlled with Aim® herbicide (active ingredient: carfentrazone-ethyl).

- Justin noted an apparent increase in storage rots in recent seasons. To manage bitter rot, they apply Merivon® (active ingredients: fluxapyroxad and pyraclostrobin) approximately two weeks before harvest to ensure protection during storage.
- Woolly apple aphid is controlled using Senstar®, a combination of Esteem® (pyriproxyfen) and Movento® (spirotetramat).
- Brown marmorated stink bug does not currently cause significant damage in their orchards. They believe this is due to the presence of ample natural enemies.

Cherries

- 85% of Riveridge's cherry orchards are also located in The Ridge.
- Riveridge Land Company primarily grows tart cherries, with only a small proportion for the fresh market.
- One of the main challenges in the region is rainfall. The region receives an average of 960 mm annually, and sudden downpours of up to 50 mm in an hour can occur unpredictably, making rain covers essential for fruit quality.

- The area can receive up to 190 cm of snow in winter.
- Justin mentioned that Spotted Wing Drosophila (*Drosophila suzukii*) can be a problem and is managed through exclusion netting.
- Riveridge uses two different cherry training systems, a regular V-trellis and a multileader system. Their target yield is 17-20 tons per hectare, though Justin mentioned that their investment remains viable at yields of 12-14 tons per hectare.



Regular V-trellis



Four-leader system

Rasch Family Orchards – Jake Rasch

- Rasch Family Orchards is a 6th-generation farm growing 21 hectares of peaches, 3 hectares of pears and 202 hectares of apples.
- Spotted Wing Drosophila is an issue for them as its damage creates an entry point for brown rot to develop.
- Jake observed that for peaches grown on a perpendicular V-system, up to six picks may be necessary due to the top fruit ripening first. In contrast, peaches grown on a fruiting wall V-system tend to mature more uniformly, typically requiring only three picks.
- All 21 hectares of peaches were successfully thinned in 2025 using ACC, applied at variable rates per cultivar.



An example of their peach orchards. Summer Serenade trees on Controller 7 and Guardian rootstocks, trained to a V-system oriented parallel to the row, with three leaders to control vigor. This system produces between 16 and 33 tons per hectare.

J. Engelsma Orchards – Jim Engelsma

- Jim is a location manager at Nutrien Ag Solutions and part-time farms 58 hectares of apples and peaches.
- They apply a synthetic auxin, 1-Naphthaleneacetic Acid (NAA), to help manage and reduce bitter pit by enhancing calcium transport through the xylem.
- Below is an example of a promising orchard at J. Engelsma Orchards. It's Honeycrisp® on B.9, planted at a spacing of 2.5 x 0.45 meters and trained to a two-leader system. The target yield for this system is 150 tons per hectare. Jim noted that this system allows them to reduce spray volumes to 470 liters per hectare, except for miticide treatments.



6. XV International Symposium on Plant Bioregulators in Fruit Production

23 – 26 June 2025

Event	XV International Symposium on Plant Bioregulators in Fruit Production
Convenors	Prof. Todd Einhorn, Prof. Randy Beaudry, Dr. Steven McArtney and Dr. Peter Petracek
RSA participants	Wiehann Steyn, Graeme Krige, Nico Ferreira, Karen Theron, Keith Bradley, Marno van der Westhuizen, Werner Truter and Tarina du Toit.
Programme	The symposium spanned 4 days and featured 53 presentations including 6 keynote sessions. On Wednesday, 25 June, we had a field tour to Valent BioSciences' headquarters in Libertyville, Illinois.
Noteworthy and interesting presentations	Apples <u>Crop load management and thinning</u> • Perspectives on apple crop load management – Kon, T. • Review of crop load management in apples with PGRs under American Northeast and Spain conditions-part 1, flowering – Gonzalez Nieto, L. • Review of crop load management in apples with PGRs under American Northeast and Spain conditions-Part 2, fruitlets - Gonzalez Nieto, L. • The need to selective, individual apple tree adapted fruit thinning and return bloom spraying program – Stopar, M. • A sustainable, non-chemical thinning method for US Midwestern apple producers: Novel use of anti-hail, insect-exclusion netting – Elsysy, M. • Induction of carbohydrate deficit to improve efficacy of a post-bloom thinner application – Larson, J. • Monitoring abscission and thinning efficacy with a fruit set prediction model from distributions of apple fruitlet mass – Hillmann, L. • Linking carbohydrate status of apple fruitlets to their sink strength: Implications for fruit set prediction and thinning models – Hillmann, L.

- Sequential applications of plant growth regulators, ring barking, and ring incision in the early development of apple trees in southern Brazil – Soldatelli Palm, L.
- 1-Aminocyclopropane-1-Carboxylic Acid (ACC) is an effective late thinning agent in apple trees without compromising future plant development – Ferraz, A.
- The influence of 1-Aminocyclopropane-1-Carboxylic Acid (ACC) on thinning of apples and stone fruit in the Intermountain west region of USA – Fallahi, E.
- Uptake of 1-Aminocyclopropane-1-Carboxylic Acid (ACC) when used as a peach and apple chemical thinner – Racsko, J.

Return bloom and biennial bearing

- Developing agronomic strategies that reduce biennial bearing in apple – Campbell, T.
- Using Ethephon, ACC, and NAA to improve return bloom of 'Honeycrisp' apples in western New York – Lawrence, B.

Disorder and stress management

- NAA and ABA consistently reduce bitter pit severity in 'Honeycrisp' apple fruit – Griffith, C.
- Using acibenzolar-s-methyl to reduce flood stress in apple trees - Muñoz, M.
- Effects and interactions of aminoethoxyvinylglycine and acibenzolar-S-methyl on stem-end splitting and glomerella leaf spot on apple – Clavet, C.

Colour improvement

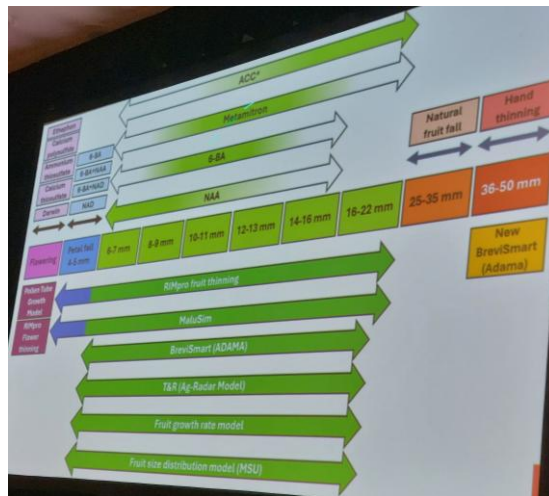
- Early application of ethephon, ACC, dichlorprop-P and trichlopyr acid to enhance the red coloration of 'Brookfield Gala' apples – Torres Lezcano, E.
- ACC for red colour improvement of bi-colour apples – Truter, W.
- The effect of 1-aminocyclopropane-1-carboxylic acid (ACC) on color development in apple fruit - Racsko, J.

Vegetative growth and dormancy

- Chemical induction of budbreak in apple trees with combinations of compound classes, timing, and application frequencies – Soldatelli Paim, L.
- Control of apple trees' vegetative growth in mild winter climate regions – Fagundes, E.
- Molecular mechanisms underlying the regulation of dormancy by phytohormones in fruit trees – Teng, Y.

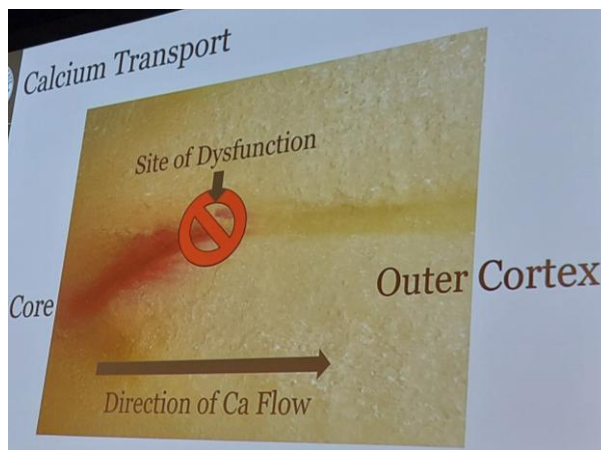
	<u>Postharvest quality and storage</u> • Preharvest plant growth regulator effects on flesh firmness of stored apple fruit – Watkins, C. • ReTain and Harvista effects on maturity and interactions with postharvest 1-MCP on storage quality of 'Honeycrisp' apples – Watkins, C. • Effect of different spray strategies of 1-Aminoethoxyvinylglycine on pre-harvest fruit drop and fruit quality of apples – Carra, B. • Factors affecting the release and delivery of 1-MCP - Beaudry, R. • Effect of near-infrared light irradiation on maintaining freshness of post-harvest fruits and vegetables after refrigeration and transportation – Hada, A. Stone fruit <u>Thinning</u> • A comprehensive overview of peach thinning with ACC – Evans, M. • Thinning efficacy of 1-Aminocyclopropane-1-Carboxylic Acid (ACC) in sweet cherry – Beya, V. • Reduction of labor in thinning 'PS 10711' peach using different chemical thinners – Fagundes, E. • Differences in temperature-dependency of the conversion of 1-Aminocyclopropane-1-Carboxylic Acid (ACC) or Ethephon to ethylene in peach and apple leaves – Sopcak, B. Pears <u>Yield and quality</u> • Optimizing fruit size, quality, and profitability of pears with preharvest application of AVG - Beyá, V.
Some learnings	• Many presentations focused on the use of ACC as a thinning agent for both pome and stone fruit. It has proven to be effective for thinning peaches, nectarines, apricots and sweet cherries, and offers a reliable late thinning option in apples. • The site of ACC uptake for inducing flower or fruitlet abscission appears to differ between fruit types. In peaches, the pedicels play a crucial role in absorbing ACC to achieve effective thinning, whereas in apples, uptake occurs primarily through the leaves and fruit. • A study by Muñoz found that treatment with acibenzolar-s-methyl (ASM) effectively improves the response of apple trees to flood stress by enhancing leaf function and increasing survival rate when applied four days before a flooding event. ASM acts as a systemic acquired resistance (SAR) inducer and has also been shown to increase resistance to ambrosia beetle attack in flood-stressed dogwoods under simulated conditions. W Steyn has informed M Karsten of ASM as a potential tool to help manage Polyphagous Shot Hole Borer.

- Luis Gonzales provided an overview of the available models used to predict thinning efficacy prior to application, along with the specific data requirement for each model.



Models for predict efficacy before spray				
	MaluSim	T&R (Ag-Radar model)	RIMpro FruitThinner	BreviSmart
Necessary data	- T_{PC} min - T_{PC} max - Radiation - Latitude - C_g bud break	- T_{PC} night - Radiation - Latitude	- T_{PC} - Radiation - Beginning and end flowering	- T_{PC} night before and after treatment - Radiation after treatment - Variety - Fruit size
Output	Thinning index depending of carbohydrate balance	Thinning index (0-6)	Susceptibility thinning index	% of thinning efficacy per 1 kg/ha of Brevi

- Calcium transport is limited to xylem vessels, which gradually lose functionality as the fruit matures.



A study by Griffith, Beaudry and Einhorn found that treatments with NAA or ABA significantly reduced bitter pit incidence in Honeycrisp® apples by extending the xylem functionality.

7. Appendix 1: Contacts

1. **Prof. Gennaro Fazio** - gennaro.fazio@usda.gov (Professor, School of Integrative Plant Science, Horticulture Section, Cornell AgriTech, Cornell University)
2. **Prof. Terrence Robinson** - tlr1@cornell.edu (Professor, School of Integrative Plant Science, Horticulture Section, Cornell AgriTech, Cornell University)
3. **Prof. Susan Brown** - skb3@cornell.edu (Professor, School of Integrative Plant Science, Horticulture Section, Cornell AgriTech, Cornell University)
4. **Bill Dodd** - bdodd@maiaapples.com (President, Midwest Apple Improvement Association)
5. **Bill Pitts** - bill@billpittsconsultant.com (Independent horticultural consultant)
6. **Prof. Gregory Lang** - langg@msu.edu (Retired Professor, Department of Horticulture, Michigan State University)
7. **Amy Irish-Brown** - amy.irish-brown@valent.com (Field Market Development Specialist, Valent BioSciences)

8. Appendix 2: Itinerary

ITINERARY FOR TRIP TO USA

- 16 JUN:** Cornell Agritech - Geneva, NY
am. Prof. Gennaro Fazio
pm. Prof. Terrence Robinson and Prof. Susan Brown
- 17 JUN:** Reality Research, Lake Effect Orchards and Wafler Farm and Nursery
- 18 JUN:** Travel to Grand Rapids, MI.
- 19 JUN:** am. MSU Clarksville Research Center - Clarksville, Michigan
(Unfortunately, the visit was cancelled as Prof. Todd Einhorn was busy with preparations for the Plant Bioregulator Symposium the following week).
pm. Wittenbach Orchards, Third Leaf Farm and Hart Farm – Belding and Greenville, MI.
- 20 JUN:** am. Riveridge Produce Marketing, Rasch Family Orchards, Schwallier's Country Basket and Windy Ridge Orchards – Sparta, Casnovia and Conklin, MI.
pm. J Engelsma Orchards – Grand Rapids, MI.
- 23 – 26 JUN:** XV International Symposium on Plant Bioregulators in Fruit Production – Chicago, IL.
- 27 JUN:** Return to Cape Town.