

# THE ORTET

Inaugural Issue

Midwest Apple Improvement Association  
Autumn 2015 Newsletter



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## **Midwest Apple Improvement Association**

P.O. Box 70

Newcomerston, OH 43832

(800) 446 - 5171

To obtain the EverCrisp® licensing agreement and learn more about MAIA1 go to:

[evercrispapple.com](http://evercrispapple.com)

To find out how to become a member, learn more about our history, read past newsletters, and more, go to:

[midwestapple.com](http://midwestapple.com)

# A Message from the Chairman



**David Hull**

White House Fruit Farm  
MAIA Chairman of the Board

Greetings All,

Sometimes we find value in unexpected places. An example of this at our farm market is a used Pease apple peeler we bought several years ago to make peeling more efficient in our bakery. After a few weeks of using the peeler, the girls found that they liked their smaller household peelers better than using the bigger, although more efficient, peeler. So, the Pease sat unused.

We decided to use the Pease in the Market in front of customers on the weekends, offering customers a bag of peeled apples to take home to quickly make sauce with. It was a moderate success. Although this was only moderately successful, we realized that the value of the Pease was the entertainment it provided for our customers on slower winter weekends. For some customers, coming to our farm on the weekends was not solely for shopping; it also gave them something to do. Peeling apples in front of customers on slower weekends not only sold a few more apples, but most importantly provided entertainment for our customers. They left with the product and a feeling that they were happy they visited.

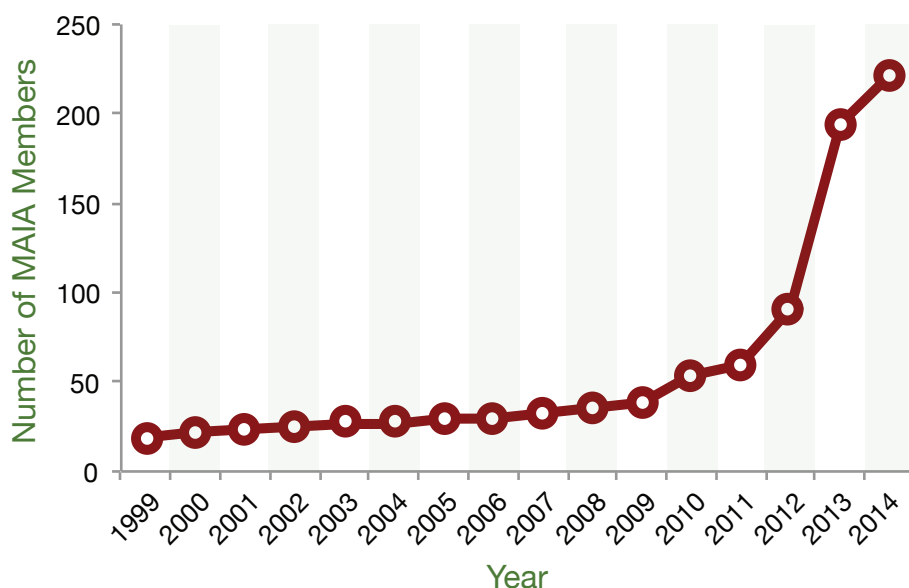
This may also be the case with MAIA. The value may be in more places than we originally thought. Our farm is a site of testing second generation MAIA apple selections. When we agreed to do this, I had little idea of how many trees we were being asked to plant and care for over a number of years. The common plan with MAIA apples is to quickly remove test varieties that show little initial promise. We have not removed trees yet, although we will have to in the future. Walking the rows where these testing apples are planted in our orchard and tasting them in the fall becomes a daunting task. It's easy to question why one would agree to do this and the answer is similar to that of the Pease Peeler: value comes from unexpected places.

We press our own cider at the farm. At the end of harvest our pickers go through the MAIA trees and strip all the apples leftover for cider. This year, we had eight bins. I thought nothing of these until I blended the first three bins with our regular juice apples. The result was more than good. The high Brix MAIA fruit raised the taste of our cider to another level that our customers responded to positively. Therefore, the value of MAIA apples may be more than the handful that are patented and released. Small-scale cider producers may benefit by planting high Brix apples to enhance the taste of their gourmet cider. Coming back to customer entertainment, a tableful of MAIA selection in our farm market solely for the use of samples and enjoyment may allow our November customers to not only purchase fruit that is currently available, but also to enjoy a few apples that are nothing but conversation starters. Sometimes, value is found in unexpected places!

# President's Report

The successful release of EverCrisp® has defined 2015 as a transition year for the Midwest Apple Improvement Association (MAIA)! Breeding has continued with a renewed sense of excitement and anticipation. I am also pleased to report the following:

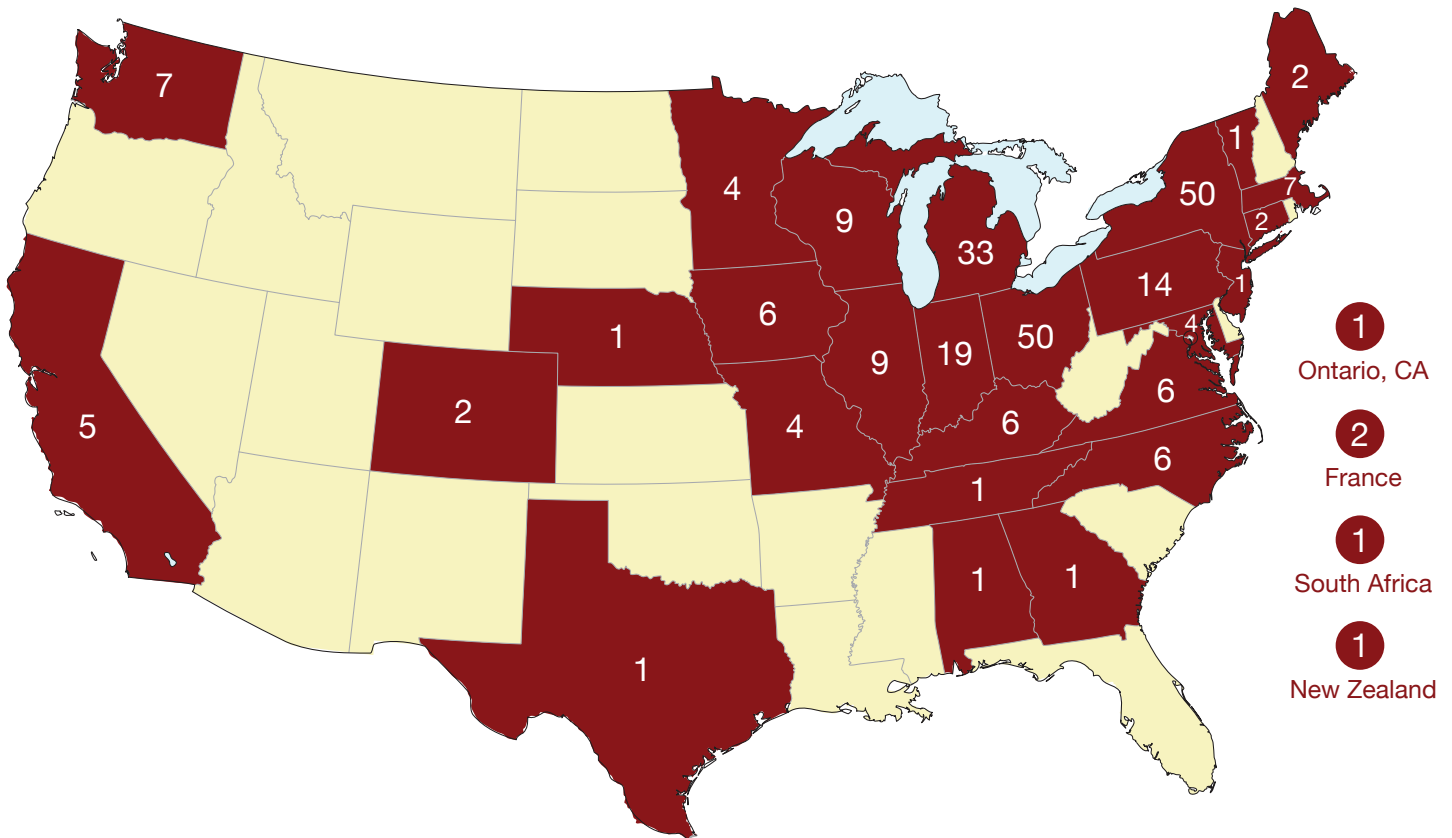
- MAIA has received two separate international licensing proposals for EverCrisp®. Negotiations are ongoing and an announcement is expected very soon.
- Plant patent data collection has taken place this past growing season for 4 elite selections. MAIA expects to apply for the patents for these 4 this winter. Release and availability information will be available after the plant patent applications have been submitted.
- MAIA invested in an evaluation app and (10) iPads to streamline the consumer evaluation process. The app organizes the data so that we have scores and comparisons immediately. The iPads will also be used in the field when evaluating seedlings.
- Collected over 6,000 consumer evaluations of MAIA elite selections this fall, comparing them to existing varieties by harvest timing and also scored the MAIA elites against themselves.
- Identified 30 MAIA elite selections that scored as well or better than existing varieties. These are being organized by harvest date and other fruit characteristics. The goal will be to choose the best and/or most unique MAIA selections for early, mid and late season harvest. The breeding goal is to provide MAIA members with a full season of exciting, unique, 21st century varieties to delight their customers.
- Work is underway to design a new MAIA logo and catch phrase that will help define our business moving forward.



Bill Dodd  
MAIA President



## MAIA Member Orchards



## MAIA Apple Evaluation App for iPad

For some of the top MAIA selections we wanted to gain additional consumer input. For that purpose Amy Miller and Tim Rhodus (Ohio State University) designed an MAIA apple evaluation app to be used on an iPad. The evaluation app was an iteration of the 'Fab Food Show' paper survey.

The iPads have been used with school children (high school students at Carrollton High School, Nov 4/5) and with apple customers at Lynd Fruit Farm warehouse sale (Nov 21). The survey requires approximately 15 minutes of focused attention to complete. Apple samples are presented as well as water and crackers to cleanse the palate between samples. Samples are not rated against each other.

We are very pleased with the additional information obtained using the iPad app. In situations where time and attention are available this is the preferred method of data gathering!



# An Embarrassment of Riches

## EverCrisp®

The 2013 replicated plantings of MAIA1 (EverCrisp-branded apples) fruited this year. The fruit was offered at retail and some resides in storage, both refrigerated and CA. Concerns about the variety's appearance were allayed, as second generation trees produced smooth attractive fruit with 80% to 100% color. MAIA will be passing out fruit at the Horticultural shows this winter, giving growers and marketers first hand experience with the taste, texture, and keeping quality.

Surveys have not been received from all plantings, but CG 935 rootstock seems to have performed the best overall - many of these plantings are of the tall spindle design, but few have reached the top wire and now that cropping has begun growth has slowed.

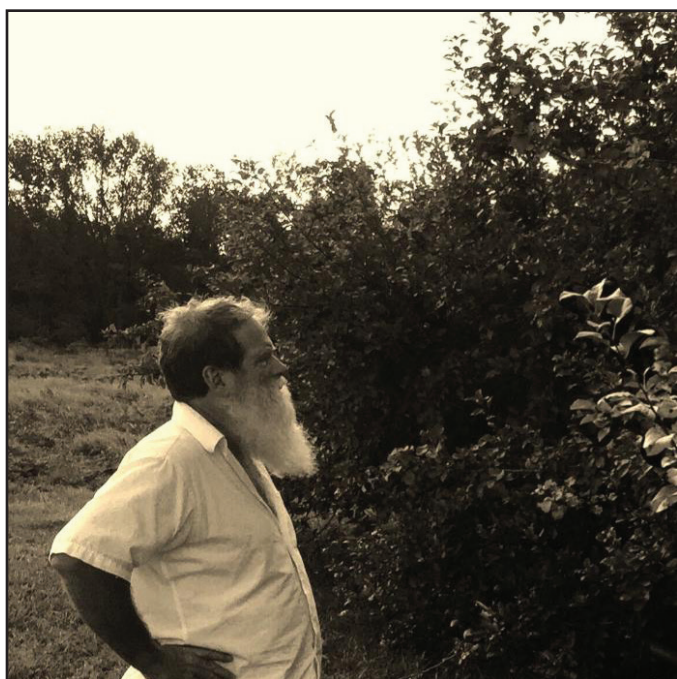
230,000 MAIA1 trees were planted this spring and more than 300,000 will be delivered and planted next spring. It is planted extensively enough that it will appear in wholesale channels. It possesses the qualities to succeed and has a group of sharp marketers behind it to shepherd the introduction.

To those who have planted, I say 'thank you' and after you experience that first crop of fruit consider how many more you should plant because you do not have enough - to those who have not taken the chance, I encourage you to order enough trees to make an impact on your business the last three weeks of October.

This apple is far superior to anything available from mid-October on. People take a bite and say "Wow".

## Elite Selections

MAIA has more than 150 advanced selections and of those about 15% are identified as 'Elites'. This harvest season Diane Miller and Amy Miller coordinated consumer testing with these Elites that confirmed our suspicions. These new varieties consistently blew the standards out of the water. I want to emphasize that the common varieties chosen to run in these panels were of the highest quality and offered at their peak season. Every week the MAIA elites were preferred to an extent that is almost embarrassing. How to handle this wealth is the challenge we face.





These new varieties fall into two broad categories: 'Ethylene resistant' and 'Gourmet.'

'Ethylene resistant' is a term we've coined to describe crispy, long keeping, non-softening elites. These all have Honeycrisp as a parent. We have a series that matures starting in late August and then every two weeks or so until November.

'Gourmet' is a term we've been using to describe varieties that have complex flavors and good texture but a more transient peak season. Several of these are GoldRush X Sweet 16 crosses. Some have Vf scab resistance. Generally they have a shorter harvest window and eventually soften, though some (mainly October ripening) have GoldRush character with non-softening flesh.

We have not identified any of these Elites as having 'world class' wholesale potential. Much time and effort will be spent this winter on the mechanisms of introduction of these Elites. How wonderful it is to have such a conundrum.

Any member can order trees of any of these selections on a 'testing agreement' basis. On the advice of patent attorneys we will not identify specific selections in this newsletter, but current MAIA members are invited to contact myself, Diane Miller, or Mitch Lynd to discuss the particulars. Since all members are part of our 'Variety Development Team' we can identify and discuss specific selections freely.

In the 2004 MAIA newsletter, (available at [www.midwestapple.com](http://www.midwestapple.com)) Ed Fackler wrote in an article entitled "Why Do We Need New Apple Varieties?" the following; "...it seems that direct marketers possess the knowledge of consumer preferences BETTER than anyone else. Therefore their grass-roots input and influence...are extremely valuable as they possess unfiltered (and largely unbiased) preferences."

Our experience with the Elites during the 2015 season bears this sentiment out. As your operation plans for the future do not overlook or underestimate the possibilities that exist with these new varieties.

**David Doud**

David Doud's Countyline Orchard,  
MAIA Board Member



## Taste and Appearance in Apples

The following article was originally published in the Hoosier Horticulture Newsletter in September 1928.

Roger B. Corbett, of the Rhode Island State College, took four varieties of apples, peeled them and cut them into cubes which he placed before eleven men consisting of bankers, professional men, farmers and mechanics. The apple that was rated first in appearance ranked last in taste. In the taste test, the McIntosh was placed first, Baldwin second, Rhode Island Greening third, and Rome Beauty last. The Rome Beauty, which is a favorite in stores and on fruit stands, was found least tasty.

Four thousand questionnaires were mailed to Providence families for the purpose of gathering information on the distribution and consumption of apples. The replies indicated that 46.7 per cent of the apple are eaten raw in that city, that 48.5 per cent are eaten in the form of pies, sauce or baked apples and that 4.8 per cent are eaten in salads.

(Reprint from the American Fruit Grower)



# Fall Taste Evaluations

Your MAIA Science Team tested 40 MAIA selections for consumer preference against each other and 20 top-selling standard varieties throughout the apple season from Sept. 2-Nov. 21. We conducted over 6000 surveys in 8 locations throughout Ohio and Indiana, and 30 of our selections consistently and significantly out-ranked the 20 standard varieties. Here is a tour of our autumn tasting events, so that you get the flavor.

## FIRST TASTING

Sept 2 – West Lafayette Farmers Market  
(Indiana)

**What we did:** Whole apples of each selection were displayed. Slices of each selection were available for tasters to pick up by toothpick and taste. The protocol was “taste all 4, pick your favorite.” We provided a coin for each taster to drop into a container beside their favorite apple as their vote. We completed one set of 4 apples (137 tasters) and counted coins in each container. A top quality standard of the season was considered the control, in this case Ginger Gold.

**What we learned:** This protocol was effective and appropriate for the time/attention available from tasters (farmers market shoppers). The college student workers kept the tasting ready, neat and tidy, and recorded comments from tasters. The top MAIA selection out-preferred the Ginger Gold standard 37% to 14%.

## WEEK 1

Labor Day Weekend – Lynd Fruit Farm  
(Pataskala, OH)

**What we did:** During this weekend we ran 4 different sets of 4 apples (some mixing and matching). Again the protocol was “taste all 4, choose your favorite, vote using our coin”. MAIA selections run were freshly harvested early September apples grown by Lynd’s. Best of the weekend Lynd apples were used as standards: Golden Supreme, Big Red Gala, Honeycrisp and Pixie Crunch.

**What we learned:** Lynd customers were very willing to participate in this activity. More than 500 people participated in weekend tastings. We identified a preferred MAIA selection for this time period.

## WEEK 2

Sept 13 – Lynd Fruit Farm (Pataskala, OH)

Pixie Crunch, Honeycrisp and Gala were used as standards. Two sets of 4 selections/varieties were run. Prized comments included “These are all great apples.” “This tasting is a great idea.” “That’s a delicious apple – I hardly ever tasted one better!” “Lynds always do such a nice job here.” “Gala is my favorite apple” (did not vote for unlabeled Gala). “Honeycrisp is my favorite apple” (did not vote for unlabeled Honeycrisp). We were weak in this weekend for getting MAIA selections ready at this moment vigorously tested; we may be weak in candidates here.

## WEEK 3

Sept 19/20 - Lynd Fruit Farm, Carmel Indiana  
Farmer’s Market (rained out), and Doud  
Orchards (Denver, IN)

Five sets of 4 selections/varieties were run. Standards used were Pixie Crunch, Honeycrisp and Daybreak (September) Fuji. Several MAIA selections did very well in these sets. The universal preference for crispness became apparent. The appreciation of more flavorful apples became apparent. What started as a whisper became a drumbeat: people think current apples are boring and are delighted for more flavor complexity.





First Tasting: Eager tasters line up to try MAIA apples at the West Lafayette, Indiana Farmers Market



First Tasting: Our MAIA tasting tent was located adjacent to David Doud's apple sales space. David assisted greatly by directing his customers towards us



Week 1: A young apple consumer participates in the tasting at Lynd Fruit Farm



Week 1: Members of MAIA's Science Team (left to right): Matt Thomas, Amy Miller, Mitch Lynd



Week 5: Cassie and Noah Lynd serve tasters at Lynd Fruit Farm



Week 6: Apples ready to taste



## MIDWEEK 3

Sept 23 – West Lafayette Farmers Market (Indiana)

There was little hesitation among shoppers this time about stopping by and tasting apples. We received a publicity boost from Patty Jitschke, wife of former Purdue President Martin Jitschke. Retired Purdue extension agent Dick Hayden was there as well as Purdue fruit researcher Peter Hirst. It was an event! We ran 2 sets with Jonathan, Crimson Crisp, Honeycrisp and Pixie Crunch as standards. Two MAIA selections polled very well.

## WEEK 4

Sept 26/27 – Fishers Indiana Farmers Market (Phil Foster tent), Doud Orchards (Denver, IN), and Lynd Fruit Farm (Pataskala, OH)

We were gaining more confidence in the quality of the MAIA selections as compared with current standard varieties. It became important to make sure the grower brought out what he considered his very best apples at peak condition to use as standards. We were finding that best of the week MAIA selections were routinely out-polling the best of the week current varieties. Eight sets of 4 apple selections/varieties were run this weekend.

## WEEK 5

Oct. 3/4 – Lynd Fruit Farm (Pataskala, OH)

Nine sets of 4 apple selections/varieties were run. Jonagold and Golden Delicious were run as standards. The MAIA is rich in exceptional apples for this time period. After a few sets we ceased running standards and began trying to determine which of some great MAIA apples are most generally preferred.

## WEEK 6

Oct 11 – Sage's Apples (Chardon, OH)

Two sets were run. We transitioned from mid-season to late season apples. Autumn Crisp was run as the standard. Sage's have trained their customers to expect great apples and I quizzed this conversational group on whether they would purchased MAIA selections instead of their current standard. Response: they would buy and eat and enjoy these apples. Get on with it. Another whisper that had turned into a drumbeat by this time was that people will not give up crisp texture for flavor but they will give up flavor for crisp texture. Fifty – sixty percent of people will be absolutely delighted to have both crisp texture and flavor.

## WEEK 7

Oct 17/18 – White House Fruit Farm (Canfield, OH)

Six sets of 4 apples/selections were run; mostly late season apples. EverCrisp was in one set and remarkably there were a few people who tasted it and said "I don't need to taste any more; this is my favorite." It is the only time the entire season that comment was made. Golden Delicious, SunCrisp and Cameo were run as standards.

The "taste all 4; pick your favorite" required an appropriate amount of effort from on-farm market and farmer markets customers. It forced tasters to select their very favorite even if they liked all four. By listening to comments and interacting, as time allowed, considerably more information was gained than just a vote. People were happy to share their criteria; what they liked about an apple and what they didn't like.

## WEEK 8

Oct 29/30 Carrollton Schools Halloween Apple Tasting (Carrollton, OH)

We ran several sets with 9th graders and 2nd graders. This was a great opportunity to get preference information from school kids.





Midweek 3: MAIA elite selections ready for taste tests



Midweek 3: A colorful row of MAIA apples for tasting



Week 6: Apple tasting setup at Sage's Apples, Chardon, OH



Week 5: Young apple consumers enjoying the taste tests



Week 5: Cassie and Noah Lynd on duty



Week 4: A tasting event at Doud Orchards in Denver, IN



## FALL TASTE EVALUATION SUMMARY

MAIA apples were tested against the best current apples of the weekend throughout the autumn 2015 season, with your customers at your markets with your standards. Mitch Lynd grew many of the MAIA selections and they were well grown (huge kudos to Mitch!). The selections were tested when properly mature for fresh sales. It is very exciting to see consumer acceptance of these selections. THE BAR IS RAISED. We can confidently move forward with some selections based on data and experience currently in place. There are several other selections that can be moved to elite status; promising but more experience/data needed. We have confidence because these apples excite your customers!

**Texture versus Taste:** Nearly 100% of consumers want a crisp apple. Texture is the threshold for 'liking.' After that crispness requirement is met, 50-60% of those consumers move on and want flavor added to crispness. They may diverge on what flavors they prefer, but a sweet/tart complex blend of flavor components is generally popular.

If you want your customers to be very happy, offer crisp apples for sale. If you want 50-60% of your customers to be very delighted, offer crisp apples with stronger flavor than what is presently in your inventory. You have the opportunity to offer your customers flavor experiences that they've never found before in apples.

### A Great MAIA Research Team

We had an outstanding team this fall that pulled off these tastings for the good of the MAIA. Thanks so much to all who supplied apples, supplied tasting locations and supplied enthusiastic help. We gained a lot of information to move the selection and release process forward.

**Diane Miller**  
Special Advisor,  
Ohio State University



Week 7: The White House Fruit Farm storefront welcomes participants to MAIA's apple tasting stand



Week 8: Diane Miller dresses up for the Carrollton Schools Halloween Apple Tasting in Carrollton, OH





# Apple Crunch Day

As we create new apple varieties, we are also hoping to create larger consumer demand for apples in general. What better way for fresh apples to compete with the snack food industry than by increasing consumer knowledge and awareness of the apple options available to them?

Thanks to a partnership with Carrollton Exempted Village School District in Carrollton, Ohio, we hosted “Apple Crunch Day.” This event was described by participants as “awesome, exciting, and amazing.” Students were given MAIA selections as their fresh fruit option with their school lunches. Each student, grades K-12, had the option of a whole apple or apple slices. Most chose slices. Some kids who initially picked whole apples even returned to the cafeteria and asked if their apples could be sliced. We went through 5.5 bushels and

put a lot of miles on the cruncher. A school board member and the cafeteria director crunched and witnessed the excitement.

As we’ve seen at all consumer taste events, crispy, juicy texture was important to the students. Much to the delight of the cafeteria staff, a check of the trash and floor revealed very little apple waste. Kids ate the whole apple instead of just taking a bite and throwing the rest away. Some student comments: “This is the best day ever!” “Why can’t you do apples like this all the time?” and “They just taste better!”

Thanks to Lynd Fruit Farm for providing apples.

**Diane Miller**  
Special Advisor,  
Ohio State University

**Amy Miller**  
Research Coordinator

# Apples for a New Era

Apple growers throughout the world know that people eat more apples at harvest time than any other time of year. So, why don't people eat more apples later in the year? Why do they eat so many at harvest time and seem to lose interest as time passes?

One of the reasons for fading apple demand is the traditional seasonal effect of competing citrus crops entering the market around Thanksgiving time but there is more to the story.

It looks to me like the best tasting highly flavored apples are often selections that don't keep very well, and for many years the best keeping apples, ones that would be reliably firm many months after harvest, simply did not taste as good. Apples like Ben Davis, the old time original "Winesap," and Rome Beauty, at best, were reliably firm but somewhat bland.


Meanwhile, one of the sweetest apples, coincidentally with the highly suggestive name of "Delicious," had a very short period of optimal palatability. This period can occur long after harvest if it is picked at the exact right time, kept under precise storage conditions, then ripened and consumed in a relatively short time period. It was planted and promoted extensively for decades with growers abiding by precise picking dates, maintenance of precise storage conditions and costly quality controlled delivery systems. All of this was well understood and executed precisely by growers, distributors and retailers. None of this mattered if the consumer did not EAT QUICKLY. Too often consumers would place Delicious apples outside their refrigerators and not eat them during the next week. Unfortunately, from time to time, if the grower or anyone down line in the distribution system failed to carefully maintain proper storage conditions, Delicious was soft the day of consumer purchase. This was especially the case with purchases from relatively low volume distribution points like hotel lobbies, airports, gas stations and convenience food markets. Even large grocers re-

peatedly demanded apple growers deliver apples from their orchards to refrigerated warehouses in refrigerated trucks, often only a 1 hour trip, then placed the apples on non refrigerated retail display counters for weeks. Too many Delicious purchases delivered too much disappointment too often for too many decades. Could this be the reason why fresh apple consumption declined for years in the U.S.? Could this be the reason why apple consumption was so much higher at harvest time but much less in later months? Could this be the reason why the U-pick apple business exploded in popularity for us at Lynd Fruit Farm? I think so.

The release of EverCrisp® will enable more apple growers than ever to help reverse the decline in per capita consumption of apples, but it is not likely to quickly change the harvest time prefer-







ence for u-pick apples over apples sold later. Millions of people now instinctively believe apples are best at harvest time. Millions of consumers now believe apples taste best when they pick them right off the trees. There are many reasons for this, including the entertainment value of the u-pick experience; however, it should not go un-noticed by growers that there are several apples that score as well as EverCrisp® in taste trials at harvest time. The “plurality of perfection” phenomena, i.e. no one product will ever taste best to everyone all the time, certainly applies to the apple category. Not only do people like variety, but also people have

### A new variety has to have the right “stuff” to acquire a substantial share of the snack food market

different ideas about what’s best, especially with regard to their food choices. The most recent tasting data show that even though EverCrisp® is one of the most preferred apples ever tested, there are others that have scored nearly as well, in fact a few even better. Some of the highest rated are the relatively short season apples that would best be reserved for harvest time sales so as not to repeat the devastating effect of the Delicious experience.

Properly executed niche marketing will deliver some financially pleasing success stories to growers bold enough to tackle the difficulties associated with the introduction of new unheard of apple cultivars, provided they in fact taste better to many people than traditional offerings. MAIA is sitting on several advanced selections poised to deliver consumer delight and grower profits. Every grower’s specific needs are unique but MAIA has a new cultivar in every maturity time slot from two weeks before Gala to after Goldrush that delivers a superior eating experience to a significant percentage of the consuming public. Diane and Amy Miller have worked hard this past fall to help sort out exactly which selections are most likely to be well received by consumers. This doesn’t just

“happen.” They have good descriptions including photos, and more importantly, data from thousands of independent tasters regarding their apple preferences. Based on their recommendations, it is time to name, patent and release for sale at least a half a dozen new apples. Some are short season apples, best sold only near picking time, and others are suitable for sale at harvest time and many additional months later.

People are slow to change their habits, especially their eating habits. Farmers are slow to change their traditional crop choices, especially tree farmers. Don’t expect the changes made possible by these new MAIA discoveries to just suddenly “take off” because they have been demonstrated to be superior, but success can come because the groundwork has been laid and it can be done. The MAIA organization is most fortunate to have chosen the sales leadership of Mr. Bill Dodd. His initial success is impressive and possible because of an extensive network throughout the growing and sales communities. Even so, growers should be prepared for a long slow process in the battle for increasing market share in the snack food industry, remembering that even Honeycrisp did not reach its currently raging popularity until years after its introduction.

More than 90% of the reasons leading to buying decisions are EMOTIONAL, NOT LOGICAL. A new variety has to have the right “stuff” to acquire a substantial share of the snack food market, more than any other apple available, and it has to be marketed thoughtfully. It makes an excellent choice for retailers to present a tandem pair of new choices whose broad flavor spectrum combined with shelf life durability, super crispy texture, juiciness and red appearance will hit a record number of consumer hot buttons. Each of these apples trump Honeycrisp flavor. Our new selections present an apple marketer’s dream team opportunity to significantly expand the apple’s share of the enormous snack food market.

**Mitch Lynd**  
Lynd Fruit Farm, MAIA co-founder



