



MIDWEST APPLE IMPROVEMENT ASSOCIATION

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Purdue University • 625 Agriculture Mall Drive • West Lafayette, IN 47907-2010
(765) 494-6968 • FAX: (765) 494-0391 • E-mail: awhipkey@purdue.edu
<http://www.hort.purdue.edu/newcrop/maia/>

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President's Message

Jim Eckert

Many of us have spent the winter planning for the next and future apple crops. Educational presentations are a part of this and the best two I heard were given by Desmond O'Rourke at the IDFTA meeting and by David Bedford, the Honeycrisp guy, at our own MAIA meeting at Purdue. Many speakers take a question or two, and then the clock ends it. Not so at Purdue, where Dave answered questions and was available the entire day. Things don't get much better for a group of apple breeding enthusiasts! I think Mitch Lynd extracted a promise from Dave to send us some of his quality stuff that didn't make the cut. We will return to Purdue in November for our annual meeting. Don't miss it!

We, of course are the long-view folks who have taken on an audacious project in apple breeding. We have the ability to generate substantial numbers of seedlings every year at a cost no other program can match. If our collection can be permanently sited at the Dawes Arboretum in Ohio, we are on the road to success.

With the advent of club variety schemes, it becomes ever more evident that no one else will supply us with Midwest adapted material or readily plant material. So we will do it simply because no one else will.

Have a great season.

Apple Evaluation Form

At the last meeting of the MAIA board of directors, Jules Janick and Anna Whipkey agreed to provide a form for members to use when evaluating seedlings received from the MAIA breeding program. Descriptors on the form are used to characterize size, shape, appearance, and quality. One copy of the form has been enclosed with the newsletter. Use this form to make additional copies. There is also a pdf file of the evaluation form available to download and print at the MAIA website (www.hort.purdue.edu/newcrop/maia/eform.pdf).

The top part of the form is used to record the identity of the seedling, including the cross, grower and location, date of harvest, and date of evaluation (if different). We suggest you cut a representative fruit in half from stem to calyx and trace the outline on the form. This will provide additional information on shape and size.

There is room at the bottom of the page for

notes on fruit quality during storage. It would also be useful to make notes on qualities you believe are exceptional or fatal flaws (e.g. drops easily, watercore, bitter pit, scald).

Some good websites for photos of disease and pest damage can be found at:
ssfruit.cas.psu.edu/chapter4/chapter4a.htm
www.gov.on.ca/OMAFRA/english/crops/facts/92-051.htm

MAIA Annual Meeting

This year's meeting will be held at Purdue University. The final date is not set but it will be sometime during the 1st or 2nd week in November. We will arrange to meet for dinner for those arriving the day before.

The board of directors will meet the evening before.

Report from Ohio

Here is the combination of traits on the trees that I collected pollen from (collected 4/17) and sent to Purdue University to be crossed with GoldRush:

3995.L—1993 collection; I picked this out a couple years ago as a late-leaving tree. Among the Kazak trees at Dawes it is one of the later leafers/bloomers—but not extreme—Court pen du Plat just was breaking bud when this was blooming. It has both *Vf* and *Vr* for apple scab resistance, cedar apple rust susceptible, fireblight resistant. We saw the apples last year for the first time - small green with minimal flavor.

3574.B—1993 collection; middle to late leafing time (relative to other Kazak trees), *Vr* gene for apple scab resistance, cedar apple rust susceptible, fireblight resistant. Haven't seen apples yet (probably small green minimal flavor), entire 3574 seed lot has interesting disease-resistance traits including *Vf*.

3541.O—1993 collection; middle leafing time (relative to other Kazak trees), *Vr* gene for apple scab resistance, cedar apple rust susceptible, fireblight resistant. Haven't seen apples yet (probably small green minimal flavor), interesting traits in entire 3541 seed lot for disease-resistance - including several *Vf*

3585.P—1993 collection; middle leafing time (relative to other Kazak trees), *Vf* gene for apple scab resistance, cedar apple rust resistant, fireblight resistant. Haven't seen apples yet (likely small green minimal flavor), only have 3 seedlings from this seed lot

4020.R—this one I know almost nothing about, it has not been characterized for apple scab, cedar apple rust or fireblight resistance or apple quality, best I can say is that it is very precocious as it is from the 1996 collection.

It was interesting to me that none of the ones that had started to bloom from the 1995 collection (potentially best fruit quality) had at least two interesting characteristics! I didn't see any advantage of using them as parents if they were susceptible to all diseases!

I went back to the Kazak collection at Dawes on April 24 and collected pollen from the latest seedling blooming this year (3990.K) it had the interesting trait of growing a short shoot and then having a single or double blossom on the end of that short shoot. I pollinated 10 Honeycrisp/B9 trees at OARDC with the 3990.K pollen on April 25.

3990.K—from the 1995 Kazak collection; *Vf* gene for apple scab resistance, susceptible to cedar apple rust, no screening

for fireblight resistance; potentially higher fruit quality than the 1993 collection material.

Here's what else is going on for MAIA:

We grafted this spring 4 copies of each of the 30 elites that Phil Forsline sent us wood for, using whip and tongue grafts onto M111 (2 each) and B9 (2 each) rootstocks. We've had really good take—maybe only 4 or 5 misses total. The buds we grafted were full of flowers. These trees will be grown this year in containers and then planted into the fenced area at Dawes next spring.

We also grafted 4 copies of the Purdue clones (technique and number and success ditto above). These will also be planted in the fenced area at Dawes next spring.

Purdue selections to be planted at Dawes:

Pristine	Coop 39
HER18T110	Jonafree
Williams Pride	CQR10T17
Redfree	FN3503-318
Dayton	FN3503-037
FN3505-058	HFR8T151
FN3505-354	Sundance
Prima	Coop 31
FN3505-304	Primera (Coop 42)
Princess	Juliet
Priscilla	Coop 17
FN3505-328	Enterprise
FN3505-336	GoldRush
Pixie Crunch	CTR10T38

I have about 100 trees to be planted (hopefully week 5/12/2003) in the fenced area at Dawes. These are interesting varieties for multiple traits that I've accumulated from various sources; some French cider varieties, some late blooming European varieties, some recent releases from European disease-resistance breeding programs, multiple copies of the most interesting Kazak seedlings from Dawes, old American varieties, etc. We can use this planting in future years for making crosses, collecting pollen, evaluating fruit, show-and-tell, etc. The Ohio Fruit Growers Society pitched in \$2500. over two years to help finance this collection.

I also have almost 1000 seedlings to be planted at Dawes from crosses. Hopefully these get planted in the next couple weeks.

The following is an email exchange between Jules Janick and Tim Smith on GoldRush apple.

4/17/2003

Dear Jules,

I have a limb of GoldRush on an apple tree in my back yard in Wenatchee, Washington. When we met at the Pear Symposium [Italy, 2000], you asked me to let you know how it grew and looked in our non-russeting climate.

I have attached a picture to help you better relate to its appearance. It has relatively visible lenticels, but very little russet. It is green at harvest, but turns yellow over time in storage. The fruit is quite large, but not overly. The taste and storage is quite good, though too tart for many tasters. I saw no bitter pit, though it was on a tree that was prone to those sort of problems.

The tree, as far as I can tell from a limb, is relatively easy to manage. The limb is on a mature Braeburn/M7, which is too vigorous, but the GoldRush returned bloom quite well this year, unlike the Braeburn.

If someone wants a great keeping fruit for the tart apple lovers, this one looks like a winner. It is quite attractive when grown under our dry warm Spring conditions.

Tim Smith

North Central Washington Extension- Tree Fruit Production
Washington State University

Jules Janick replies



Dear Tim

Thank you very much for this. I am convinced that GoldRush is one of the most amazing apples of the world. It has remarkably rich flavor, very long storage, and excellent tree type. However, it is very late, sometimes has finish problems, sometimes splitting or hairline cracks in some climates. It performed very well in ProTree nursery (California) but had some sunburn problems in that very hot climate. I do not know if it is too late for Wenatchee. I think not because it can be harvested past frost. The high sugar acts as an antifreeze. It needs to be given a test in the West. Another problem with the apple is that it is so dense and rich you can only eat one!

It can develop a very attractive Old Gold Appearance. It crops regularly but sometimes overcrops with a negative effect on size. Thus it requires thinning. The longer you store it, the better it gets because acidity moderates a bit and the sugar and flavor come through.

See what you can do with this apple. For a grower appraisal of this apple contact Mitch Lynd in Ohio. He loves this apple and has made a lot of money with GoldRush at his U-pick apple operation. I have never seen a more beautiful crop—he really knows how to grow it. Every year, GoldRush is rated as the very best quality apple after storage at Purdue.

Jules

Hi Jules,

I saw some sunburn on the most exposed fruit, but it wasn't too bad.

Absolutely not [too late for Wenatchee]. I harvested it in October, but just guessed as to maturity. We harvest Fuji's in early November, and usually do not have a problem. We did this year.

The apple remains crispness for a very long time and maintains its fresh flavor. However, unless stored in plastic or under very high humidity it shrivels a bit, but without affecting crispness. I left mine in a box in my garage and they are somewhat shriveled right now, but remain relatively crisp.

I couldn't eat mine until the past month or so. I like tartness, but not THAT tart. The flavor finally came out in full force as the acidity dropped.

I would be easy to grow out here in the Pacific Northwest, especially the more dry, moderate temperature areas. It would fit only into a niche market, though, and it looks enough like a Golden Delicious that it might surprise some who purchase it.

Tim

Washington Apple Commission Falls

By Greg Brown Associate Editor

Reprinted from *The Fruit Growers News*, May, 2003.

After 66 years of marketing the state's top crop, the Washington Apple Commission (WAC) is shutting down.

The commission decided to fold, following its legal defeat over the constitutionality of its marketing and promotion program.

U.S. District Judge Edward Shea ruled against the commission, based on a 2001 U.S. Supreme Court opinion that said forcing growers to pay for promotions that benefited their competitors infringed upon their constitutional protection of free speech.

The judge released his decision on March 31. The commission issued a press release on April 10, saying its board had decided to wind down operations immediately, rather than spend more money defending the case.

The board's decision meant bad news immediately for 33 of the commission's 48 employees who were dismissed. The commission also canceled the contracts of 15 overseas representatives. Approximately 15 employees were reportedly going to be kept on to wrap tip business, but that number has continued to be cut as various programs cease operation. There continues to be speculation on how the legal defeat will affect the apple industry.

In its release, the commission said plans will be developed to protect its logo and intellectual property. The commission will also reportedly continue to fund commitments to the Northwest Horticultural Council, the Northwest Fruit Exporters and the Washington State Horticultural Association through Aug. 31. That funding will be prorated through July 2004. The U.S. Apple Association (USApple) would be fully funded through Aug. 31 and funded at 25% from Sept. 1 through July 2004.

The commission ceased collecting mandatory assessments on March 31, the day of the judge's ruling. The release did not report how much of its financial assets would go toward repayment of assessments to growers for the past year and a half since the lawsuit was filed. The commission will pay for no more marketing activities and has canceled all summer and future promotions.

The original lawsuit was filed in 2001 by the apple commission to clarify its authority to collect assessments. The commission agreed to pay the legal bills of two growers who sued in the class-action lawsuit, hoping to affirm its right to collect the fees. The total legal costs of the effort have been estimated at well over \$500,000.

Intervening in the lawsuit were a handful of organic growers and three Yakima Valley warehouses: Washington Fruit and Produce Co., Borton & Sons and Evans Fruit Co. The defendants were

seeking nearly \$50 million in refunds for past assessments.

According to reports, grower assessments typically represent more than 90% of the commission's budget. The mandatory fee was 25 cents per 42-pound box of apples, or about \$21.5 million for the 2002-2003 crop.

Commission President Welcome Sauer did not return phone calls seeking comment.

The commission reportedly prosecuted the case hoping to gain a quick decision in their favor, and bar future challenges.

While the decision may not affect some growers today, in the long run growers would begin to feel an impact, according to Larry Olsen, an apple grower from Washington state.

"If something isn't put together that includes funding for important groups and programs, you can be sure it will dramatically impact growers," he said.

Olsen currently serves on the USApple Board of Directors as vice chairman, was on the Board of Directors of Tree Top and is a member of the Washington Horticultural Association. Olsen retired from the Board of Directors of the Washington Apple Commission this in 2002, after serving as its chairman.

"There are ongoing meetings, primarily between the big shippers that are concerned with putting a collective marketing order together to be able to continue the trade promotion with our retail partners," said Olsen.

"It is far too early, with an industry as diverse as ours including as many as 3,000 growers and dozens of shippers to know what will come of this. It is a daunting challenge and it will take some time."

One bright spot is that the WAC board had the foresight to fund key groups that the industry will need through the next few months, Olsen said.

Ed Kershaw agrees that the outgoing board was wise to do as much as it could to fund industry partners.

Kershaw is a former member of the WAC board for 10 years, and was chairman of the board in 1999. He said the ruling and subsequent decision to shutter the commission continues to raise questions for fruit growers and shippers in Washington.

The judge's decision does not speak well to the future of groups funded by mandatory assessments, said Kershaw.

"I think every single one of them is in jeopardy," he said. "As the industry continues to consolidate and organizations grow, their willingness to render the funds that they do not control will continue to be somewhat challenged."

Kershaw said that the judge's decision sets a precedent from a

legal standpoint. "Our cheese has moved and it has moved a long ways away," he said. "What we do know is that the commission's assets will be sold and somehow those monies will be spent appropriately with continuing the program or whatever the judge deems worthy when he makes another decision in a week or two."

There is also a lot of concern about how Washington will deal with the government's Market Access Program (MAP) funds, said Kershaw.

"MAP funding has been a part of our export promotion through the apple commission for years. If the commission is not going to be the administrator of the export program, who is?"

Kershaw is the president of Domex Marketing Company which is an umbrella company for Kershaw Fruit Company.

"Obviously there were people who were unhappy with the commission," said Kershaw. "The commission lost some favor because some people were tired of generic advertising, tired of funding advertising and promotion that they could not control."

Quarantine Release of Kazakh Elites

The list of Kazakh elite clones that were described in Horticultural Reviews Vol. 29 Wild Apple and Fruit Trees of Central Asia is shown in Table 1 along with characterization data collected on-site in Kazakhstan in the 95/96 collection years can be found on the web at: http://www.ars-grin.gov/npgs/acc/acc_queries.html by using the GMAL # as the Accession identifier. That will bring up the assigned PI #, site information and characterization (click on "Observations") info. Additional characterization data has been obtained as 14 of these have now fruited in Geneva. The attached spreadsheet lists this data using the same descriptors as used on-site in Kazakhstan (HR29 Table 1.3 for descriptor list to interpret the data). Descriptor lists and definitions can also be found at: <http://www.ars-grin.gov/cgi-bin/npgs/html/desclist.pl?115>. Digital images of many of these have been taken. These photos will be loaded in the web site in 2003. Plate 1D (label mix up as described; erratum) between pgs 54 and 55 in HR29 shows 13 of the elites with 'Gala' and 'Empire' as references.

This is official notification that the following apple accessions that were imported into the US through the USDA National Plant Germplasm Quarantine Center have received a final release (effective 1/17/03) from quarantine:

Q 32661 A *M. sieversii* 21-01
 Q 35771 A *M. sieversii* Kaz95 05-06
 Q 35773 A *M. sieversii* Kaz95 06-08
 Q 35774 A *M. sieversii* Kaz95 07-02
 Q 35775 A *M. sieversii* Kaz95 07-05
 Q 35776 A *M. sieversii* Kaz95 08-04
 Q 35777 A *M. sieversii* Kaz95 08-06

"It isn't that those feeling were directed against anybody or anything, but that the good old American spirit of free enterprise was at work."

Questions remain about how the industry will fund its infrastructure. Money needs to be invested in production and marketing research, Kershaw said.

"There is just a lot of things that all of us out here are not willing to let slip-slide away. Because they are critical to our ability to compete in the global market today," he said.

Despite the loss of the commission, Kershaw said he remains committed to collective promotion efforts. "We are all just a bunch of pygmies. None of us are very big and powerful, but collectively we can do a lot," he said.

Q 35778 A *M. sieversii* Kaz95 10-01L
 Q 35779 A *M. sieversii* Kaz95 10-04F
 Q 35780 A *M. sieversii* Kaz95 10-05F
 Q 35781 B *M. sieversii* Kaz95 12-02
 Q 35782 A *M. sieversii* Kaz95 17-14
 Q 35783 B *M. sieversii* Kaz95 18-07
 Q 35784 A *M. sieversii* Kaz95 18-18
 Q 36403 A *M. sieversii* Kaz 96 03-02
 Q 36404 C *M. sieversii* Kaz 96 03-04
 Q 36405 C Kaz 96 03-05
 Q 36406 A Kaz 96 03-07
 Q 36407 B Kaz 96 03-08
 Q 36408 C Kaz 96 03-09
 Q 36409 C Kaz 96 03-11
 Q 36410 C Kaz 96 03-12
 Q 36411 C Kaz 96 03-13
 Q 36412 A Kaz 96 03-14
 Q 36413 A Kaz 96 03-15
 Q 36414 C Kaz 96 05-04
 Q 36416 A Kaz 96 06-02
 Q 36417 A Kaz 96 06-03
 Q 36419 C Kaz 96 07-03
 Q 36420 A Kaz 96 07-04
 Q 36421 B Kaz 96 07-05
 Q 36422 C Kaz 96 07-06
 Q 36423 B Kaz 96 07-07
 Q 36424 C Kaz 96 07-09
 Q 36428 C Kaz 96 08-15
 Q 36429 C Kaz 96 08-16
 Q 36430 B Kaz 96 08-17
 Q 36431 C Kaz 96 09-12

China Now World Leader in Apple Production

Since the late 1980s China has become the world's largest apple producer with large plantings in the central and northeastern parts of the country, particularly Shaanxi and Shandong Provinces. In 2002, China had 2.5 million hectares under cultivation with production of 20.5 million tonnes of apples, about half of the world's production (FAO data), nearly five times US production (4.0 million t) and 30% larger than all of Europe (15.8 million t). Average yield per hectare is 8.2 t/ha as compared to 22.8 t/ha for the US and 10.8 t/ha for Europe. Apples are stored in caves, cellars and long ventilated tunnels. Although most production is for domestic market, much of the surplus is being put on the world market especially juice concentrate which ends up in the US, Russia, Germany, the Netherlands, Sweden, Australia and elsewhere. The Chinese share of the American apple juice concentrate market jumped from about 1% in 1994 to 16% in 2001. The large increase in apple production has negatively affected world juice prices. The loss to American growers has led to a compensation of \$94 million this year for losses incurred in 2000. This has led to trade problems within the World Trade Organization; China is opposed to trade protectionism under the name antidumping. Although prices had been high, prices received by China are now tumbling and the increase in planting may level off. However, production will likely increase as China's new orchards come into production and because Chinese horticulturists are working to improve productivity.

Crosses for 2002 and 2003

Crosses made in 2002

GoldRush × Honeycrisp

GoldRush × Honeycrisp (open pollinated)

GoldRush × Coop 39

Cross made in 2003

GoldRush × Kazakhstan selections

3585.P, 3574.B, 3541.O, 3995.L, 4020.R

GoldRush × Honeycrisp

GoldRush × Coop 39

Honeycrisp × Pixie Crunch

Characteristics of the Kazakhstan apples are described in this issue (Report from Ohio) by Diane Miller.

The crosses made in 2002 at Purdue yielded 3728 seed from the GoldRush × Honeycrisp cross and 914 seed from the GoldRush × Coop 39 cross; all seed was sent to Meadow Lake Nursery in Oregon to be grown into 1 year seedlings. The number of seed of GoldRush × Honeycrisp (open-pollinated) sent by Mitch Lynd to Meadow Lake is not known. It was guessed that Meadow Lake has 10,000 2002-cross seeds to be grown into seedlings in 2003 and available for planting at Dawes Arboretum in spring 2004.

Please see the enclosed

Midwest Apple Improvement Association

Contribution Notice and Board of Directors Ballot

Don't forget to return these in the enclosed envelope

2003 MAIA Meeting

The annual meeting will be held at Purdue University this November.

Make sure we have your email address if you would like to be notified by email.

Details will also be posted on the MAIA website
www.hort.purdue.edu/newcrop/maia

Midwest Apple Improvement Association

Operating Statement

January 1, 2002 thru December 31, 2002

Total income	\$9,321.28
Total expenses	\$1,655.24
Total assets	\$17,989.37