

Cultivar Observations from Fall '08 Nut Harvest

by Ken Hunt, University of Missouri Center for Agroforestry

The 2008 growing season was overall quite good at New Franklin, Mo., where our chestnut repository and cultivar trial are established. Bud break and flowering ran 1-2 weeks behind and harvest was a least 1 week behind normal compared to an average year. It was the most consistently moist year I can remember and temperatures over all were moderate during the growing season. Our oldest trees were planted in 1996 and the best individual tree yields were 115 lbs. for a Luvall's Monster, 109 lbs. for a Miller 72-105, and 94 lbs. for a Qing tree.

Table 1 (page 5) shows cultivars with good promise; unfortunately, many of the trees are not of the same age, so direct comparisons are difficult. An efficiency factor was calculated to help try to obtain a crop load indicator based on the size of the tree in relation to the actual nut yield. Numbers above say, 0.10 have a heavy crop load while 0.06-0.09 is a moderate crop load and below 0.05 a light crop relatively speaking.

The cultivar Shing was taken off of the promising list after observing poor nut fill, over cropping and limb breakage. Many hybrid trees are not on the list because we are emphasizing Chinese chestnut due to good tolerance to

the Midwest climate and overall blight tolerance. Though, several hybrids have performed well so far. For example a direct comparison in our replicated cultivar trial (5 trees of each cultivar, established fall 1999) shows Colossal had a mean nut yield of 59 lbs. and Qing was 42 lbs. Colossal nuts averaged 16.7 grams while Qing nuts averaged 12.1 grams. Very few of the Qing nuts floated when washed, while the Colossal nuts had 14.8 percent of the nuts by weight as floaters. As you know, (cont. pg. 5)

'Autumn Fire' Catches On

by Michelle Hall, University of Missouri Center for Agroforestry

Chestnut beer may be popular in Italy, but in this country it's still a new product. One company that has dived in, with great success, is Jolly Pumpkin Artisan Ales, Dexter, Mich., with "Fuego del Otoño," or "Autumn Fire."



Ron Jeffries, head brewer and owner, said "Fuego" really fits in with what they do at Jolly Pumpkin.

"It's both traditional, in that chestnut beer has been done in Italy for many years, and also new, in this country," Jeffries said. At Jolly Pumpkin, they are a "traditional" brewery in that they age their brews in oak barrels; but they also try a lot of "new" ingredients, including chocolate, in addition to chestnuts. (cont. pg. 6)

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A Message from the President

MIKE GOLD
UNIVERSITY OF MISSOURI
CENTER FOR AGROFORESTRY

What a winter! The Pacific Northwest has been hammered with snow; the Midwest and East have been bitter cold. While the chestnut trees lie dormant there is still much to accomplish. In the years that I have been a CGA member, the Chestnut Growers of America have worked to help its membership grow and thrive in all facets of the chestnut business including production, marketing and sales. In this issue of The Chestnut Grower we are enclosing a survey for CGA members to fill out. We feel that it is a service to the CGA membership to be kept up to date on the current market and market trends and there no better way to accomplish this than to poll the CGA membership. Please keep in mind that all individual surveys will be anonymous and no individual data will be presented. The information we develop from this member survey will be available to members only. If this turns out to be a worthwhile endeavor, we will repeat this survey annually in the winter issue. It should only take a few minutes of your time to complete the survey and the better and more thorough the responses are, the better the results will be on our collective behalf.

Looking beyond annual market surveys, I see the need to develop detailed chestnut production budgets. The University of California Cooperative Extension Service publishes detailed information on English Walnuts. Here is an example:

- *Sample Costs to Produce English Walnuts on 100, 20, and 5 Acre Orchards in the Sacramento Valley. 2006. (J.K. Hasey, K.M. Klonsky, R.L. De Moura). <http://coststudies.ucdavis.edu/files/walnutsv2006.pdf>*

This and similar guides contain detailed information on total cash and non-cash costs per acre (planting costs, cultural costs, harvest costs, operating costs, non-cash overhead costs, etc.). All of this information is incorporated and offset against gross returns per acre to arrive at net returns. I believe that it will benefit CGA members if we develop similar information on chestnut production/profitability. This will let us know exactly how profitable chestnut production actually is, if/when profits begin to exceed costs, and if/when grower operations are in the black. Working together, we can help one another succeed in the chestnut business. I think that is a worthwhile goal for CGA members to strive for.

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What I *Wouldn't* Do Again

We aim for each issue of this newsletter to have some new tip or idea, etc., that helps each grower. At the most recent CGA annual meeting, however, a few growers pointed out that sometimes tips don't include just what works for another grower, but what doesn't work! So, we are taking this suggestion and turning it into a regular feature through "What I *Wouldn't* Do Again." Contributions will be included anonymously, so don't be embarrassed to share your slip-ups, mishaps, etc., to help others learn. Let's all learn from each others' mistakes through CGA!

Here is the first installment:

"For us it was our drain tile system. We didn't realize how important good drainage was and how marginal some of

our land was. We put it in the year after we planted the trees so it wasn't the easiest project, but it's really paid off.

"Another thing we should have done differently was our processing line. We had been told that we should plan for full production and while we thought we were doing that, we didn't. It meant the initial system just couldn't handle the volume and we had to build another line to handle it."
CGA

Thanks to the brave grower who contributed our first "What I Wouldn't Do Again." We encourage everyone to pass along their stories to Michelle Hall at hallmich@missouri.edu or mail to 203 ABNR, Columbia, MO 65211.

Dennis Fulbright: CGA Director and Cover Model



Dennis Fulbright, Bill Nash and the Michigan chestnut industry were front and center in the May 2008 issue of the magazine Michigan Farmer.

The two articles gave a thorough overview of chestnuts and the Michigan industry, including photos of both Dennis (on the cover) and Bill. Topics included locally grown vs. imported chestnuts, the nutritional benefits of chestnuts, the Michigan industry, marketing chestnuts and Michigan State University research.

From the cover article: "Once in a while opportunity comes knocking, but with most new startup ventures, you need to be the one taking the initiative. That's exactly what Michigan State University is doing in an attempt to bring yet another new commercial crop to Michigan's extremely diverse agricultural industry – chestnuts.

"Nat King Cole's 1946 production of 'The Christmas Song,' which begins with the popular 'Chestnuts roasting on an open fire,' is familiar to many, but few have tasted the sweet and savory flavor of chestnuts or know their numerous food uses.

"MSU professor Dennis Fulbright is part of a group at the university called 'Team Chestnut' that is working with a number of growers to establish more chestnut orchards, increase yields by finding productive varieties for Michigan's climate and use the proper horticulture care to make them flourish. The team is also tackling harvest, storage and marketing challenges and opportunities to advance the industry on all fronts."

To see the full articles online, go to www.michiganfarmer.com and click on "More Michigan Farmer" and then "Magazine Online." CGA

Cool Tools

from “The Bark,” the newsletter of The American Chestnut Foundation

The following are excerpts from “Growing Tips” in the Summer 2008 issue of the newsletter of the American Chestnut Foundation, written by Sara Fitzsimmons, Northern Appalachian Regional Science Coordinator. The newsletter admits that although “none of the tools are absolutely necessary for growing chestnuts, they might be interesting to those who like gadgets or those who might want to investigate their trees and/or land a little further.” Enjoy!

Paint Valve Markers

Sharpies® fade within about a year’s time. Aluminum tags can dig into and girdle a tree’s branch, and they can also get eaten by a number of different animals (like porcupines!). And it’s tough to find something to nail a tag on to.

When I first came to Penn State, Tim Phelps (now of the TN Chapter), showed me a product known as a Paint Valve marker. In the summer of 2005, we went through and numbered all the tree shelters in an 1,800 tree planting using that marker. Those marks are still very much readable now in 2008. The pens come in a variety of different colors; yellow, white, and black are my favorites. These have become my favored method of labeling. One can write on trees, plastic, metal, almost anything. These are also great for numbering bags during pollination season.

My preferred brand is the 563 Speedry® Paint Marker available from Forestry Suppliers. There are also similar types available from Gemplers or as paint pens from A.M. Leonard. At most places, they run about \$3-\$4 per marker.

Web Soil Survey -

<http://websoilsurvey.nrcs.usda.gov/app/>

This tool has been on-line for about 3 years now and is one of the best I’ve used for first examining the suitability of a site. It can be a bit difficult to use as first, but there is a manual and if you just play around with it a bit, you’ll get the hang of it.

Once you find out the soil type, you can track down more about that soil type by entering in the soil’s name on the

USDA’s Official Soil Description (OSD) page: <http://soils.usda.gov/technical/classification/osd/index.html>

This tool can be a great first look into your land and its suitability for growing chestnuts, or even other species. And since the tool is fairly easy to use and web accessible, it allows quick and professional presentations. You can use the tool to look at drainage, frost-heave potential, permeability, % clay, and many other variables. It’s fun just to learn more about one’s own property.

**A good follow-up to this initial analysis would be to get a soil test done (note this is for those just planning an orchard or those who have already planted an orchard). Even a basic analysis can give you great recommendations on how to manage the property for certain species. Some land grant institutions still run soil tests (Penn State being one of them). (*CGA Editor’s Note: University of Missouri offers soil tests as well.*) Your local cooperative extension agent would probably have more information on where to get soil samples performed in your area. In some states, like Connecticut, the test is free!

Compaction Tool

I was recently told about this tool by Anne Myers of our KY Chapter. Compaction can severely limit growth and production. Most sites should not have huge compaction issues, but if a site had been recently farmed with heavy machinery, formerly been used as pasture, recently had a building site near it, or possibly been used as a landing during a clear-cut operation, the soil there could be severely compacted.

If you’re concerned about compaction issue, a penetrometer, or soil compaction tester, might help you evaluate the extent. If there is severe compaction, subsoiling it can alleviate it. This aerates the soil and will most likely allow for much better growth of planted chestnuts, or any plant for that matter.

These tools may run upwards of \$200, so it’s not a tool just to have around. There are some cheaper “pocket” models, though. It may also be possible that one’s local extension office would have access to one of these tools.

(cont. pg. 5)

Cultivar Observations (cont. from front page)

Colossal being a hybrid tree, tends to have variable sized nuts with a fair percentage of blanks and partially filled nuts.

A blight canker was observed on Primato this past summer, which adds to the cultivars such as Layeroka and Luvall's Monster with canker. One Bouche de Betizac tree has a canker on its hybrid rootstock and is up to the graft line on the tree. I can't tell yet if the canker is invading the grafted top, but will keep an eye on this. Another dilemma is whether some of the hybrid trees in our repository are mislabeled. After communicating with Bernie Hilgart I realized that the Precoce Migoule in our repository was not similar to Bernie's. Later, after communicating with Chris Foster, I realize I need to send Chris some pictures of our trees and nuts to help sort out any discrepancies we may have. CGA

Cool Tools (cont. from page 4)

More information on penetrometers and soil compaction is available from Penn State University's College of Agricultural Sciences: <http://cropsoil.psu.edu/extension/facts/agfacts63.cfm> or by calling 814-865-6713 and asking for the sheet Agronomy Facts 63. CGA

Do you have a new or unique tool you use to make your work with chestnuts just a little bit easier? Share it with newsletter coordinator Michelle Hall at hallmich@missouri.edu

Save the Date!

Greg Miller of the Empire Chestnut Company will host the 2009 Chestnut Growers of America Annual Meeting in Ohio on June 26-27. Details to follow.

Table 1. A comparison of mean nut weight (MNW), nut yield per tree (NYT), nut yield efficiency factor (NYEF), and nut harvest date (NHD) in years 2005-2008 for 12 recommended and promising chestnut cultivars at the Horticulture and Agroforestry Research Center, New Franklin, Mo.

Cultivars	Year Grafted	N ^z	MNW ^y				NYT ^y				NYEF ^y			
			2005	2006	2007	2008	2005	2006	2007	2008	2005	2006	2007	2008
Eaton	1998	2	14.6	17.0	15.4	13.4	3.7	5.3	3.2	8.3	0.14	0.12	0.04	0.08
Sleeping Giant	1996	2	13.7	15.0	16.4	15.5	13.5	6.8	8.5	15.2	0.17	0.09	0.05	0.07
Qing	1998	2	12.1	19.5	12.5	12.0	28.3	14.5	37.5	37.5	0.19	0.08	0.15	0.12
Peach	1996	2	19.0	17.5	17.5	17.2	8.4	3.9	3.9	13.2	0.08	0.03	0.02	0.05
AU Homestead	1996	2	16.0	14.0	17.6	11.8	16.2	18.2	6.2	20.0	0.13	0.12	0.03	0.07
Gideon	1999	2	13.4	17.5	11.0	11.9	9.8	5.6	13.0	17.1	0.11	0.04	0.08	0.08
Perry	1999	2	10.2	13.2	10.5	9.9	16.5	16.9	18.0	22.7	0.12	0.09	0.08	0.09
Hong Kong	2002	2	17.5	18.7	17.7	12.2	3.0	9.0	8.8	16.0	0.12	0.13	0.10	0.14
AU Super	2003	2	25.6	23.4	24.1	20.1	1.5	3.3	0.1	11.4	0.03	0.02	0.00	0.04
Payne	2004	2	19.7	19.1	9.2	12.9	0.5	0.9	0.4	0.7	0.04	0.06	0.01	0.06
Mossbarger	1996	1	16.1	18.8	17.0	15.3	13.9	10.3	6.9	17.9	0.11	0.08	0.03	0.02
Kohr	1996	1	17.7	15.7	15.8	15.0	5.9	8.3	9.6	8.6	0.09	0.09	0.07	0.05

^z Number of Trees

^y Nut Yield Efficiency Factor (kg nut yield cm⁻² trunk cross sectional area at 1.37 m)

'Autumn Fire' (cont. from front page)

For "Fuego," 10 percent of the mash, which also includes malted barley and wheat, is chestnuts.

"If we had limitless chestnuts, I can guarantee we'd do more," Jeffries said.

Jolly Pumpkin purchases chestnuts from the Michigan co-op, Chestnut Growers, Inc., to create "Fuego." Over the last few years (they've made "Fuego" for four years now) Jeffries has tried a number of different ways to incorporate the chestnuts into the mash.

"We could grind and use as flour as they do in Italy, although we're not set up for that here," he said. "The first year we boiled whole chestnuts. The second year we got chestnut chips from CGI, and the third year." This year they again used the chips, but also tried CGI's new slices.

"We used the two to see the differences," Jeffries said.

And the verdict? Jeffries said both worked really well, although producing different flavors. The slices had more "raw" chestnut flavor, while the chips had more toasted flavor.

"For our purposes, I liked the flavor contributed by the toasted," he said.

The experimentation has been a labor of love. In making beer, enzymes break starches into sugars. However, each grain has a different temperature at which this starch-gelatinization process begins. Finding that point for chestnuts took a number of attempts, Jeffries said. But the work has been worth it.

"Demand has far out-stripped the amount we've brewed," Jeffries said. "We're anticipating brewing twice as much in '09." That would mean about 400 cases, compared to 200 in '08. For a small, boutique brewery like Jolly Pumpkin, it's important to keep up the supply of the year-round beers, for distribution consistency. Seasonal beers like "Fuego" have to be brewed in smaller batches as barrel space allows.

Jolly Pumpkin sells most of their beer through wholesalers and ships their product all over the country. That said,

"it's still difficult to find our beer," Jeffries said. Your best bet for picking up a pack of "Fuego" or any other Jolly Pumpkin ale is to contact Jeffries for a list of distributors in your area.

"It's been a really great beer," Jeffries said. "We've had so much interest from people in the ag side of things. "I'm surprised no other breweries are using chestnuts. I know they will soon."

Jeffries has Dennis Fulbright to thank for his interest in chestnut beer. When CGI opened their new processing facility – the same year Jolly Pumpkin opened –, Fulbright sent postcards to area brewers, with information on the tradition of Italian chestnut beer, and invited them to an open house. Jeffries expressed interest, and it "went from there," he said.

In addition to "Fuego," Jeffries, in fall '08, collaborated with Stone Brewing Co., Escondido, Calif., and a Norwegian brewer, on a craft beer.

"We designed a beer together bringing something indigenous to our area. I brought chestnuts," he said. "We brewed 200 barrels, which is something like 23 of my batches in one shot. A little more exposure for chestnuts."

The beer, Special Holiday Ale, also features southern California white sage and European juniper berries. See a blog article about the collaboration at <http://blog.stonebrew.com/?p=249>

Visit the Jolly Pumpkin brewery at 3115 Broad Street, Dexter, MI, 48130, or online at <http://www.jollypumpkin.com/> CGA

Fungus Facts

The newsletter of The American Chestnut Foundation, "The Bark," recently touted an "enriched" Web site with information on hypovirulence and the blight fungus. Go to <http://vatacf.org/> and click on "Chestnut Science" to read more.

Try the Chestnut Out in These New Places

by Michelle Hall, University of Missouri Center for Agroforestry

At the CGA annual meeting in July, the Hilgarts (Washington Chestnut Company, Everson, Wash.) told me about a chestnut cooking method that was news to me (although I do admit I'm new to this whole chestnut business!) – deep-fried chestnuts. It sounded a little crazy at first, I have to admit, but then the idea grew on me! I mean, if things like deep-fried Twinkies are the main attraction at fairs around the country lately, why not the sweet and starchy chestnut?

Here's Bernie's suggestions for deep-frying chestnuts at your place:

“It is very simple to prepare fried chestnuts. Just take the outer shell off. Deep fry just like a french fry (oil temp of 350-375 degrees for about 3-5 minutes). Remove from hot oil and drain. Remove the pellicle when cooled enough to handle. Your fried chestnut is ready to eat.”

We've come across other unique recipes lately; it seems everyone is figuring out chestnuts' versatility – beyond Thanksgiving stuffing – and trying them out in unexpected places.

The New York Times Dining & Wine section in late October suggested pairing chestnuts with shrimp in a stir-fry. I personally don't think a stir-fry is complete without a little crunch, so why not chestnuts?! The recipe is available online at <http://www.nytimes.com/2008/10/29/dining/291mrex.html?ref=dining>

A chestnut bouillon was the featured recipe on The Gothamist Web site in mid-November. Chicken, broth, cream, cognac, chestnuts – this French pureed soup recipe has it all! See the preparation instructions at http://gothamist.com/2008/11/17/thanksgiving_recipe_alain_ducasses.php

The Times Online (London) suggested in a mid-November edition pairing chestnuts with bacon and Parmesan for a hearty winter soup. If you can convert grams to cups, you'll be in business!! See the recipe, flavored with rosemary and bay leaves, at http://www.timesonline.co.uk/tol/life_and_style/food_and_drink/recipes/article5149593.ece

An article in The Chronicle (Lewis County, Wash.) explores chestnuts with a local grower, who suggests preparing them like mashed potatoes, with a little chicken broth and seasoning.

The Chicago Sun-Times featured a Fall Mushroom-Chestnut Cobbler in their Nov. 12 issue. This veggie-rich stew-like dish topped with flaky crust sounds a bit like a pot-pie to me, not that there's ANYTHING wrong with that! See the recipe at: <http://www.suntimes.com/recipes/sidedishes/1273875,FOO-News-aveg12r.recipe>

A gluten-free, rich dessert features the chestnut in a November recipe from the Daily Mail (England): <http://www.dailymail.co.uk/femail/food/article-1085611/Chestnut-truffle-cake.html> This chestnut truffle cake can be made up to six days ahead of serving. The recipe gives ingredients in both grams and ounces, so no conversions necessary!

Finally, NPR posted a story online with food writer Nigella Lawson in late October. In it she raves about Mont Blanc, a pureed chestnut, chocolate and cream dessert. Although, in my understanding, this is not an “unusual” way to prepare chestnuts, she says she has simplified the traditional recipe. Go to <http://www.npr.org/templates/story/story.php?storyId=96288338> to see preparation instructions.

Okay, that's it – I'm off to see if there are any chestnuts left in my fridge! CGA

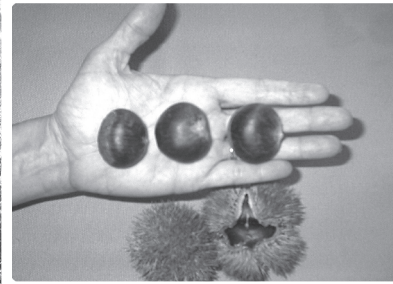
Do you have a unique way to prepare CGA's favorite nut? Try out a new chestnut recipe recently? Let me know! E-mail Michelle Hall at hallmich@missouri.edu

Dues Are Due for '09

Get your '09 dues in! There's a \$5 discount if postmarked by Feb. 15. If anyone has misplaced the renewal form, it can be downloaded from the association Web site at <http://www.wcga.net/>



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