

Chestnut-Finished Pork

by Charles NovoGradac, with Earl B. Wright

Long before feed lots and soybeans, hogs were traditionally fattened on forest mast, including acorns, beechnuts and chestnuts. The practice was called “pannage”; it is still in practice in places. Even today, Italy’s Prosciutto do Parma is from hogs fed whey and chestnuts. Spain’s jamon iberico, from hogs that forage on acorns, sells for premium prices.



Charles NovoGradac, Chestnut Charlie’s Tree Crops, Lawrence, Kan., observes how the hogs forage for chestnuts on the ground.

Although the North American chestnut forests are gone, can chestnut-finished pork be economically produced from the waste or surplus of chestnut orchards? To gain some practical experience toward that goal, Chestnut Charlie’s Tree Crops collaborated with Earl Wright, an organic grain

marketer and former hog-farmer, in a small trial of chestnut-finished pork.

Could we produce high quality pork with a distinct flavor from hogs feeding on chestnuts? Stories and taste tests have reported the flavor of pork can be influenced by chestnuts. We were encouraged by some European-trained restaurant chefs who were familiar with chestnut-pork.

Earl brought three hogs to the NovoGradac farm the third week of September. We had prepared a pen of hog panels and a crude plywood shelter. We installed a portable automatic watering device. This pen we moved from place to place as it became fouled. We fed the hogs twice daily there. After our chestnut harvest concluded, mid-October, the hogs were released during the day for exercise and to forage. We fenced an acre or so at a time with a temporary two-wire electric fence – the high-visibility nylon-woven type. We fed them and shut them up in the pen each evening. The last few weeks, we tightened up and gained confidence in the electric fence. We then kept the hogs living out under the trees day and night while allowing access to the pen, to water and shelter as they desired.

As for food, at first the hogs, being used to lapping up a diet of meal, refused to eat chestnuts **(cont. pg. 8)**

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Pack Your Bags for Oregon!

Ben and Sandy Bole have been kind enough to offer to host the 2010 Chestnut Growers of America annual meeting the weekend of June 18-20 in Oregon.

Details to follow on the CGA Web site, <http://www.wcga.net/> CGA



A Message from the President

MIKE GOLD
UNIVERSITY OF MISSOURI
CENTER FOR AGROFORESTRY

Looking Back and Looking Ahead

How did your fall chestnut sales go? Did you notice any sales impact from the difficult economic times of 2009? We are repeating our "annual" market survey this year to get the pulse of our industry. This time around the survey will be strictly "online" and hopefully easy for CGA members to fill out and return.

We are paying close attention to the local grocers in Columbia, Mo., who are all now marketing chestnuts. We are very interested in creating our local industry based upon getting the highest quality and freshest chestnuts into the hands of consumers. To our disappointment, the only grocer marketing high quality fresh chestnuts and keeping them refrigerated at the point of sale is our local natural foods market selling the chestnuts that the Center for Agroforestry is producing at our farm in New Franklin, Missouri. I spoke to produce managers at other local grocers, showed them samples of quality chestnuts, and stressed that they must be marketing only fresh, firm chestnuts and keeping the chestnuts under refrigeration at all times. In one case, the chestnuts were being refrigerated but the chestnuts themselves were already cured and would not last very long once purchased. It went downhill from there. In a couple instances, Italian chestnuts were being sold but not under refrigeration and you would never even find them unless you asked. In the worst case scenario, one of our local chains that typically sells beautiful produce was selling filthy, low quality, "local but unidentified" unrefrigerated chestnuts. We were really upset about this and even after speaking with the produce manager, nothing changed! Wow. We still have our work cut out right in our own back yard.

We are hoping to organize a meeting with the heads of the produce departments of all our local/regional/national grocers to improve chestnut product quality in the coming years. We also hope to use this meeting to promote locally grown, U.S. chestnuts over imports. Our survey data indicates that the U.S. consumer heavily favors locally grown chestnuts over imports. If you have had success working with local/regional/national grocers, send your experiences along and we will share them with fellow CGA members. Quality is a key to the growth of the U.S. chestnut industry.

Look forward to seeing many of you this June for the 2010 CGA Annual Meeting.

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Chestnut Season in Italy

by Dennis Fulbright, Professor, Plant Pathology, Michigan State University

It seemed like the 4th International Chestnut Symposium (2008) held in China was hardly over when it was time for the next chestnut meeting – but who’s complaining? This meeting was double-billed as the 1st European Congress on Chestnut AND the 5th Italian National Convention. It was held in Cuneo, Italy, about an hour south of Turin (Torino) near an area called the Maritime Alps. Actually, the nearest large city was Monte Carlo in the small country of Monaco on the Mediterranean Sea. The meeting was held the 13th to the 16th of October and overlapped with the Italian National Chestnut Festival held October 15th to the 18th. In less than a week, one became immersed in a world of chestnut – horticulture, history, culture and culinary aspects of our favorite nut.

This was one of the best meetings on chestnut I have had the pleasure to attend. When I asked an Italian his impression of the meeting, he thoughtfully hesitated and said it was better than he thought it would be. That was glowing praise when considering it was held in the middle of a worldwide recession and only a year after the China meeting. The field trips were enlightening, the presentations timely and the festival atmosphere made it, at times, magical.

Michigan sent a delegation of 11 including two chestnut growers, two graduate students, a research technician, two professors and their spouses. Australia sent twice as many, mostly growers. The Michigan delegation made six presentations on chestnut quality, efficiency of peeling, chestnut genetics and introducing Europeans to the Michigan chestnut industry. Australia made one presentation on chestnut post-harvest rot and advertised

their industry in a beautiful set of posters. By-the-way, the Australians announced they were purchasing a chestnut peeling line from the same Italian company (Boema) as Michigan did in 2001. Not all of the Australians knew much about this and when or where it was to be located and used.

The Italian meeting was divided into oral and poster presentations with discussions, a chestnut commercial product exposition, a chestnut machinery show and two different fieldtrips, not to mention a concert and opera. There were so many oral presentations that the meeting had congruent oral paper sessions. Unfortunately one had to choose, for example,

between paper sessions such as Pests and Diseases or Economics and Marketing that met at the same time on the same day. One even had to make a decision between two field trips; one to chestnut processing plants and the other to farms.

Because it was the National Chestnut Festival, all of the city’s store-front display windows had a chestnut theme, regardless of the products sold by the store. Because every window’s chestnut display was different, it made a very entertaining walk from the hotel to the conference center. Also, one evening a classroom at the chestnut research laboratory was filled with all of the food and drink products made from chestnut. It was really incredible as the entire room was filled with puree, creams, flour, pastries, candy, cookies and crackers, pasta, beer, and the list goes on and on.

There were three take-home messages I would like to share:

(cont. pg. 10)



Above: The Michigan delegation at the First European Congress on Chestnut. From left to right: Bill Nash, Carmen Medina Mora, Pete and Joyce Ivory, Jane Schneider, Dennis Fulbright, Dan and Ann Guyer, Irwin Donis Gonzalez, and Mario and Alejandra Mandujano.



Right: John Kane of Canberra, Australia, left, speaks with Michigan chestnut grower Pete Ivory at a break during one of the farm tours.

Agritourism Advice

by Michelle Hall, MU Center for Agroforestry

In early November, Ina Cernusca and I attended a workshop on agritourism presented by experts from western Colorado.

It was so interesting to hear about all of the possibilities in agritourism – there are so many ways to draw people to your farm and make it fun and profitable!

Today, people are heading to farms in bigger numbers than ever before to experience tourism/recreational opportunities. There are innumerable ways to draw people to your farm through entertainment – including: farm tours, workshops, harvest experiences, seminars, cooking/processing demonstrations, farm schools, scenic trails, guided nature walks, “haunted” orchards or woods, arts and crafts demonstrations, weddings, picnic sites, tractor rides, nature photography, farm dinners (partner with local chefs or cooking schools), pick-your-own, rent-a-tree, localvore challenges, roadside sales, value-added food sales, festivals and fairs, outdoor plays and concerts, and interpretive walks.

Working with your local or state tourism bureau and/or other farms/wineries/etc., in your area is invaluable as it pools resources and ideas.

Here are just a few tips from the workshop that I thought would be of interest to chestnut growers around the country:

*Make itineraries (available online or at each stop) with other local farms to guide people’s travels to your area.

*Invite media to your farm for an event or just for a tour. An article in your local paper or a regional travel magazine is free advertising.

*Windows Movie Maker is a free and easy software that allows users to create short films about their farm or region, using only still photographs, text and music, if desired.

*When you upload photos to your Web site, name them. This helps you get ranked higher in online searches.

*“Talking House” is a technology that allows visitors to access information about your farm via AM radio if you are not available for a tour. Go to <http://www.talkinghouse.com/> for more information; click on “For Travelers.”

*Brochures about your farm and operation can be made “interactive” to flip through the pages online in PDF.

*Link to your state’s tourism Web site (and vice versa!)

*The most important thing to remember is that agritourism is all about people – servicing people. *CGA*

For an example of a regional agritourism Web site, with events, maps, etc., go to <http://www.westerncolorado.org/>

Survey Time!!

The University of Missouri Center for Agroforestry has again created the annual CGA grower survey. This information gives the association and its members a better idea of the chestnut industry in this country and where it is headed.

This year we have put the survey online to simplify the process for both growers and those tabulating

the results. You will soon be receiving an e-mail with a direct link to the survey, for ease of use. Please take a few minutes of your time to complete.

Thank you so very much for participating in this important survey! Results are completely anonymous. Look for an overview of results in a future issue of The Chestnut Grower. *CGA*

What I *Wouldn't* Do Again

“It has long been my belief that we plant trees for our great-grand children to enjoy. Trees are generational. Especially chestnuts trees, that when taken care of, can out live several generations. They can supply enjoyment through beauty, environmental enhancement, economic return and a sense of pride that a person has contributed something back to this earth. My biggest fear is that when I’m gone, there will be no one there to nurture and care for my trees as I have. What I wouldn’t do again is wait for so late in my life to plant trees, so I would have more of my life to enjoy them.” CGA

Thanks to the grower who contributed this issue’s “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. Contributions are anonymous.

Don’t look now but we’ve posted each and every “What I Wouldn’t Do Again” online at the University of Missouri Center for Agroforestry Web site. Now you can browse these tips anytime. Go to <http://www.centerforagroforestry.org/pubs/chestnut/index.asp> to see them all!

Chestnuts Are a Natural Way to Avoid the Flu!

If you spend any time cruising Yahoo!, you might have come across Dr. Maoshing Ni, an alternative medicine contributor to Yahoo! Health. You might also have noticed that Dr. Mao loves chestnuts!

In a post from Wednesday, Oct. 21, Dr. Mao lists chestnuts and their immune-boosting power as No. 1 in his article “Seven Natural Ways to Avoid the Flu”:

“In both Asia and the Mediterranean region, chestnuts have been popular for centuries. Chestnuts differ from other nuts with their low fat content and high fiber. They have a mild, sweet taste and a crumbly consistency. An excellent source of potassium, folate, vitamins B6 and C, chestnuts strengthen the kidney-adrenal system and bolster the immune system to fight off the flu and combat infections. This flu season, introduce more chestnuts into your cooking: they are good roasted in the oven, cooked with chicken, lamb, beef or pork, or in any dish with beans and legumes.”

In the same article, Dr. Mao suggests stimulating your thymus with astragalus root; using immune-supporting herbs such as ligustrum, cherokee rose and honeysuckle; “bee-ing” healthy with bee products, such as royal jelly and bee propolis; eating more orange-colored vegetables for a boost of beta-carotene; and other natural tips for staying healthy during flu season.

To see the full article, go to <http://health.yahoo.com/experts/drmao/20151/7-natural-ways-to-avoid-the-flu/>

Just a month before, in a post from Wednesday, Sept. 16, Dr. Mao touts chestnuts again in “Seven Secrets for Lifelong Libido.”

To see the article, go to: <http://health.yahoo.com/experts/drmao/19740/7-secrets-for-lifelong-libido/>

Hope this gives your customers just another reason or two to keep eating those chestnuts! CGA

Here’s the Soup Philadelphia is nuts for chestnuts! One food columnist rounded up a variety of chestnut foods (mostly soups) local chefs have whipped up this fall and winter in the eastern city in a Jan. 10 article. It’s a mouth-watering tour and shows the versatility of the nut. Go to <http://www.philly.com/philly/entertainment/80993687.html> to read all about it!



Chestnut Decision Model at Your Fingertips

The University of Missouri Center for Agroforestry is launching an online Chestnut Financial Decision Model.

This interactive tool will help those thinking about planting trees make decisions about spacing, fertilizing, buying equipment, harvesting, etc. Each decision made in the Excel file will change the profit per acre. Potential growers can see how each decision affects their bottom line – or doesn't affect it as much as they might have thought.

Right now the tool is going through “sensitivity testing” to make sure all of the bugs are worked out. A test version will be available online at <http://www.centerforagroforestry.org/profit/index.asp#edible>

Feel free to make comments or ask questions about the model to Larry Godsey, MU Center for Agroforestry Economist, at godseyl@missouri.edu or 573-884-3216.

Godsey has created a Black Walnut Financial Decision Model and one on Pine Straw is also in the works. All the tools will be online, as available, at <http://www.centerforagroforestry.org/profit/index.asp> CGA

Guiding Landowners The University of Missouri Center for Agroforestry has published an updated version of their popular guide “Growing Chinese Chestnuts in Missouri.” Highlights include a new section on the economics of establishing and managing an acre of chestnuts. See the new guide online at <http://www.centerforagroforestry.org/pubs/chestnut.pdf>; request a printed copy from Michelle Hall at 573-882-9866 or hallmich@missouri.edu; or purchase at <http://extension.missouri.edu/publications/DisplayPub.aspx?P=AF1007>

Chestnuts on Film!

Chestnut Australia Inc., notes in the Australian Nutgrower that a chestnut video is now available online showing the “How To” of chestnuts. Go to <http://www.thefoodcoach.com.au/food-videos.asp> and scroll through the menu of videos at the bottom of the site. CGA

Pest Alert! University of Missouri Extension has created a Pest Alert for the Oriental Chestnut Gall Wasp detailing its distribution and hosts; biology; and prevention of further pest dispersion. Many photos also are included. Learn more at <http://extension.missouri.edu/publications/DisplayPub.aspx?P=PA100>

In the ‘Nutshell’ The September 2009 issue of The Nutshell (the newsletter of the Northern Nut Growers Association) included a 13-page spread all about chestnut. The article was written by CGA member Sandra Anagnostakis of The Connecticut Agricultural Experiment Station and includes identification of the different kinds of chestnut trees, along with photos of leaves, burs, etc.

CGA members interested in viewing this informative article can log on to <http://www.wcga.net/>, then click on “Identifying Chestnuts” under the menu selection “Growers.”

Thanks to newsletter editor Bill Sachs for his assistance in making sure all CGA members could view this article! CGA

They Unleashed the Virus to Kill the Fungus...

American chestnut trees in Michigan have chestnut blight but they also have something else – a virus that attacks the fungus and weakens it.

Dennis Fulbright, Michigan State University, said the planted pockets of trees are outside of the American chestnut's natural range and, at first, scientists thought they didn't have the blight fungus.

Now, Fulbright and fellow MSU plant pathologist Andrew Jarosz are injecting the virus into affected American

chestnut trees in LaCrosse, Wis., to see if they can be saved. So far, they've had some success.

To see more about this research, go to <http://www.freep.com/article/20091115/NEWS06/911150465/MSU-scientists-unleash-virus-on-tree-killing-fungus> or http://anrcom.msu.edu/press/030109/030209_chestnutblight.htm CGA

How I Harvest: Harvey Correia

In the Fall 2009 issue of *The Chestnut Grower*, Mike Gold in his President's Letter asked growers to let us know how they harvest. It seems there's a variety of ways it's done around the country. Harvey Correia, California chestnut grower, was kind enough to give us the specifics on his harvesting method:

"I've been using the Nut Wizard for 4-5 years now and it works fairly well. I use the 12" model. I use a labor crew of three to five workers (besides myself) and deploy the Nut Wizard with most of them. We harvested a little over 8,000 pounds this year (on 6 acres, with about 3 acres not yet producing much after 2007 top-working) and it worked out pretty well still and I don't have any plans on switching to machines even though my eventual production may be double what I had in 2009. Even in Portugal with the vacuum machine there I saw damage to the nuts and I don't care to subject my high-value chestnuts to that kind of treatment. Some people who have used machines put oil on the nuts to put a shine on the nuts but I prefer to avoid scratches, etc. to begin with. Even with labor costing \$8.50-\$10 per hour (plus 42 percent) to the contractor for taxes, insurance, and commission), harvesting costs are reasonable, in my opinion... One other thing, I saw mechanical harvesters for the first time in Marradi, Italy, in October 2001 and spoke to a grower who had rented a

vacuum machine. He said it did not really save much time and wasn't worth the expense for him to rent it. While I have a large labor force in my area, I do compete with wine grape harvest in my area but the workers do like the work involved in chestnut harvest. Maybe it's a change of pace and maybe they like working with me.

"One point about the use of Holt's Nut Wizard is that it's important to get the burs out of the way. I have workers toss and rake empty burs into the middles of the rows and I chop them up using a flail mower every 1-3 days. After a few passes they are broken up into small pieces and don't interfere with harvest.

"One other thing, I use Best Nitrile gloves like the ones being sold here: <http://cgi.ebay.com/ws/eBayISAPI.dll?ViewItem&item=110185840862>

"They work better than anything else I've tried but do get stinky from sweat. I have washed them and re-used them okay, though.

"One more thing – a distant relative of mine who immigrated from Portugal told me he harvested chestnuts with his bare feet. But nobody wore shoes and they had thick calluses. I guess that's another option." CGA

Chestnut-Finished Pork (cont. from front page)

or anything else. By gradually reducing their daily feed ration to 1-1/4 lbs. of soybean meal (with minerals) per hog, and offering chestnuts from our accumulated chestnut culls, floaters and smalls, after about 10 days they began eating chestnuts. These hogs chewed the chestnuts and spit out the pellicles. (Sheep, by comparison, eat chestnuts whole.) When released into the open orchard, the hogs would first run about in rambunctious pleasure and then put nose to the ground foraging chestnuts under the leaves like randomly directed vacuum machines. They even opened the chestnut burs, using mouths and feet. By the end, the hogs so relished chestnuts that they would leave off eating soybean meal when offered chestnuts elsewhere.



Above: A hog manages to get chestnuts out of burs. How does he do it? Somehow or other. **Right:** Michael Beard, partner and chef in 715, a restaurant in downtown Lawrence, Kan., gets to play with his food! Beard purchased one hog and served it at his restaurant.



Over about 70 days, each hog ate, on average, 15 pounds of whole fresh chestnuts per day. Subtracting the water content and uneaten peel, we estimate that they were consuming the equivalent of 6-7 lbs. of dry kernel food. Their capacity for chestnuts was greater than we expected. (Thanks is due to the University of Missouri Center for Agroforestry for donating some of their excess chestnuts, without which we would never have had enough.) The hogs started at about 200 lbs. and went to slaughter at about 300 lbs.

After slaughter at a USDA-inspected facility, one of our hogs went to "715," a restaurant in Lawrence, Kan., which conducted a taste test of the fresh pork with staff and friends. The comparison was with the restaurant's standard, being heritage Duroc pork. Even though ours was a conventional modern feeding breed, the chestnut-finished pork had excellent taste appeal. Chef Michael Beard, who trained on pork in Italy, said, "The fat was a little soft which I think is from the chestnuts . . . pigs finished on

acorns have the same soft fat." This suggests possible presence of unsaturated fats.

But we tasted no significant chestnut flavor. It may be chestnuts do not impart a strong flavor because Chinese chestnut kernels alone have little tannins compared to acorns. Or it may be that the distinctive taste of

chestnut-fed pigs is best expressed with heritage breeds. Chef Beard concluded, "I believe with the right breed there is potential."

Using heritage breeds will be the next phase and exploring a market that will appreciate pork raised under chestnut trees. Direct marketing to consumers may be a possibility. Selling wholesale to restaurants also is possible. There may be a niche market among discriminating customers for pork that is natural, healthy, humanely produced and environmentally friendly.

And, as a chestnut grower, there will always be the problem of disposing of culls, floaters, smalls and other unmarketable nuts. Some years we expect nut production may exceed our capacity to gather, handle, sort or store. Hogs in the orchard may be the most economic means to process rejects and excess production into value, without paying for picking, at the same time removing chestnuts that could harbor weevil larvae. For an organic orchard, hogs could fit into an integrated program for pest management, adding a new dimension that is consistent with our mission of bringing chestnuts back into the life of this country. *CGA*

Charles NovoGradac produces certified organic chestnuts d/b/a Chestnut Charlie's Tree Crops in Lawrence, Kan. Earl B. Wright, Council Grove, Kan., is the COO of Organic Grain Marketing Company and has more than 20 years of experience in livestock, grains and marketing.

MU Chestnut Workshops Cover Entire Growing Season

The University of Missouri Center for Agroforestry is offering a series of workshops on chestnut production in 2010. Four daylong workshops will span the chestnut growing season, from site selection and planting to harvesting and sales.

Each workshop will cost only \$10 thanks to support from the Missouri Department of Agriculture's Specialty Crop Block Grant program.

Forty landowners signed up for the entire workshop series in 2009 and post-workshop feedback was overwhelmingly positive. Every attendee rated the workshops either "excellent" (91 percent) or "good" (9 percent) in a survey administered after the final meeting.

The workshops, which will take place at the MU Horticulture and Agroforestry Research Center in New Franklin, are aimed at current and prospective growers, extension agents and students.

Mike Gold, associate director of the Center for Agroforestry, recommends participants sign up for all four sessions, which will take attendees through the entire growing season.

Course dates and topics (all sessions are on a Tuesday):

-March 23: Site selection, planting, graft planning and pruning.

-May 4: Grafting.

-Aug. 17: Orchard maintenance, weed control, insect scouting, pest management and disease control.

-Sept. 14: Harvest, marketing and sales.

Instructors include Gold; Ken Hunt, research scientist; Mark Coggeshall, tree improvement specialist; and Michele Warmund, professor of plant sciences. Outside experts and veteran growers will be brought in for topics when applicable. CGA

Fees include course materials and lunch. Space is limited. To sign up, contact Julie Rhoads at 573-882-3234 or rhoadsj@missouri.edu.

For workshop details, contact Gold at 573-884-1448 or goldm@missouri.edu.

Saving the Planet, Via Chestnut

Re-introducing a nearly extinct species while at the same time reducing carbon in the atmosphere? A U.S. study says planting blight-resistant American chestnut can do just that.

From UPI.com:

"Purdue University Associate Professor Douglass Jacobs said the study found American chestnuts grow much faster and larger than other hardwood species, allowing them to sequester more carbon.

And since American chestnut trees are more often used for high-quality hardwood products such as furniture, they hold the carbon longer than wood used for paper or other low-grade materials. The research was reported in the journal *Forest Ecology and Management*.

See the full article at http://www.upi.com/Science_News/2009/06/10/Chestnut-trees-might-slow-climate-change/UPI-59451244651023/ CGA

Italy (cont. from page 3)

First, the most important piece of information I learned was something I did not know about – the devastating invasive insect infestation known as Asian gall wasp. *Background:* Asian gall wasp, an insect pest from China, was introduced to North America in the 1970s. It has spread from the southeastern states north to Ohio bordering the south shore of Lake Erie. This insect was transported to northern Italy in 2001 and began to spread rapidly by 2004. The insect lays its eggs in the buds of the chestnut, which causes the buds to abort or produce hypertrophies (odd shaped growths) inhibiting flowering. I had heard in China that ‘Busche di Betisac’ was tolerant to the insect and that seemed to be the case as the ‘Busche di Betisac’ looked uninfested in orchards where we saw other cultivars infested with gall wasp. What I did not know and what researchers told us at the meeting is that the eggs and young larvae of Asian gall wasp could be present in buds without any symptoms. In other words, there is no way of knowing if a young tree or scion wood is carrying the insect internal to the buds. One risks moving the insect if any chestnut buds are taken from an infested location, even if the buds look normal and uninfected.



Above: Chestnut blight is still a threat to the susceptible European/Japanese hybrid trees. Right: Gall wasp is devastating some of Italy's traditional chestnut growing regions.



Betisac,’ ‘Marasol,’ ‘Marigoule’ and others. These orchards, so different than most of the traditional Italian farms, look like new North American and Australian chestnut farms. These growers are new to chestnut production and the farms are new. They are planting cultivars that they believe will produce large, marrone-like chestnuts with high yields and go into production a short time after orchard establishment. They have to deal with chestnut blight,

Phytophthora root rot and now Asian gall wasp. Using several cultivars provides them diversity. For example, they now know that ‘Busche di Betisac’ is more tolerant to Asian gall wasp than the natural European chestnut or other European/Japanese chestnuts.

Third, while on the farm fieldtrip I had the opportunity to meet with the leader of a regional chestnut cooperative called the Associazione Produttori Castagne Val Pellice. I was amazed that even though chestnut culture is an ancient endeavor in Italy, this cooperative was formed only 8 years ago. It has 50 members, paralleling our own cooperative, Chestnut Growers, Inc., in terms of cooperative age and number of members. With ancient trees in an ancient culture and with 50 members bringing in product, you might think their total production would be off the charts.

(cont. pg. 11)

One Italian Cooperative's Chestnut Production

Year	Kilograms (1,000)	Pounds (1,000)
2001	6.5 (founding year)	14.3
2002	6.4	14.1
2003	13	28.6
2004	17.7	39
2005	18	39.6
2006	13.3	29.3
2007	22.5	49.6
2008	3.6	7.9

Italy (cont. from page 10)

In fact, their production records, which they shared, indicated they are still young and growing. In the first and second year after their founding, they produced about 14,000 pounds of chestnuts. After that, production increased for two years, doubling in their third and tripling in their fourth years, respectively. In their fifth year after starting, things stabilized at 39,000 pounds. In 2006, production went down somewhat, and in 2007 production peaked at almost 25 tons or 50,000 pounds. Then in 2008, production appeared to crash, dropping to less than their founding year.

When I asked what they thought accounted for this crash in production, thinking that it may be due to chestnut blight infection or Asian gall wasp infestation, they indicated that the weather was responsible for the low yields. Apparently it had rained a lot during pollination in 2008 and they had poor pollination in the orchards. This was the first time I have ever heard Europeans even think about the role pollination plays in chestnut production, let alone blame production or lack of production on poor pollination. Past questions about pollination induced answers such, there is so much pollen, we don't think about it.

So where does this cooperative market its chestnuts? They said 15 percent are sold locally on the farm, in local farm markets, or processed in local bakeries. The other 85 percent are sent to distant markets or to large processing plants.

Chestnut growers in Italy during October 2009 were making about 1.80 euro/kg. for small chestnuts and 2.40 euro/kg. for the largest marrone cultivars. That would be about \$1.22 per pound for small chestnuts and \$1.64 per pound for the highly sought after marrone cultivars. The price usually goes lower as the season progresses.

The meeting was informative and the proceedings will be published in 2010. I suggest growers obtain a copy and read the presentations on Harvest, Post Harvest Quality, Pests and Diseases, and Economics and Marketing. Also, a new book was being sold at the meeting called "Following Chestnut Footprints." It has chapters on cultivation and culture, folklore and history, and traditions and uses. It is a publication of the International Society for Horticultural Science, Scripta Horticulturæ N. 9, edited by Damiano Avanzato and a host of authors. It is in English and has valuable photos and information. ISSN number, 1813-9205; ISBN number, 978 90 6605 632 9. **CGA**



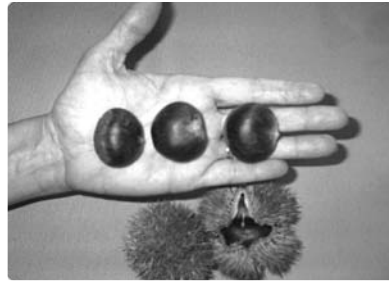
Above: A classroom was overflowing with various food and drink products produced from chestnut. **Right:** Store-front windows displayed scenes from chestnut culture regardless of what the store sold. The small town of Cuneo hosts the Italian Chestnut Festival each year and store owners enter a contest to see who can display the best chestnut scenario.



Above, left and right: Farm tours revealed that new Italian chestnut plantings are composed of European/Japanese hybrid trees grafted to European rootstock and planted in rows, making it easy for self-propelled harvesters to collect nuts.



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