

## A-‘gall’-ing Behavior

by Bob Stehli, Ohio chestnut grower

As nut growers, we often find ourselves looking to the future with trepidation. We all know that there are armies of new pests and diseases marching in our direction expanding their domains with overwhelming perseverance.

After suffering through the reappearance of the Lesser Chestnut Weevil in our area, I figured that the next major pestilence would be the arrival of the Oriental Chestnut Gall Wasp. I was well versed in its destructive effects on chestnut orchards, as every summer at the NNGA meeting we would hear reports from Dr. Joe Norton of Auburn University.

The pest was accidentally introduced to North America in 1974. It arrived on cuttings from Asia. Once established, the gall wasp spread outward from the Byron, Ga., area at a rate of 10 to 30 miles per year, arriving in the McMinnville, Tenn., area by 2001. McMinnville is a major nursery area and the source of many chestnut seedlings sold in mail order catalogues. I remember thinking at that time that I might have 15 to 20 years of gall wasp-free chestnut growing if I was lucky.



In the summer of 2003, my brother and his wife, who live in Broadview Heights, Ohio, had a graduation party for my son. While we were there, my brother led me over to a chestnut tree growing along the edge of his yard and asked me what was causing the weird growths on the new branches. I didn’t want to believe my eyes, but there was no question in my mind that it was Oriental Chestnut Gall Wasp.

Over the next week or so, my brother and I scouted the area within a few miles of his house. We found four trees with galls. They were all within about 1,000 feet **(cont. pg. 8)**

## Blogging Away

by Michelle Hall, University of Missouri Center for Agroforestry

We’ve noticed that a few of you are going beyond your Web site and are trying your hand at blogging about your farm, your business, your enterprise. That got us thinking about a presentation on blogging we heard awhile back by Lane McConnell, Marketing & Local Foods Program Manager for the Missouri Department of Agriculture. McConnell writes two blogs for the Department of Ag – one on Farmers’ Markets and one on organics. Thought we’d summarize her presentation here – with her permission, of course – for a quick lesson on blogging!

First of all, what is a blog exactly? A blog is a Web page updated daily or a few times weekly with short diary-like inserts (called posts). New posts show up at the top, so your visitors can easily see what’s new. Then they can comment on your posts. In short, a blog is your own voice on the Web.

**(cont. pg. 5)**

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## A Message from the President

MIKE GOLD  
UNIVERSITY OF MISSOURI  
CENTER FOR AGROFORESTRY

### Harvest Time

*Did you realize that according to the 2007 USDA Ag. Census there are 1,200 farms with 3,335 acres in chestnuts? I was amazed to read this. Where are all these growers? How can we contact them? Any good ideas?*

*Here in Missouri we had a very mild summer and cooler than normal early fall with plenty of rainfall throughout the season. This weather combination led to a 2009 harvest that was completed 10 days ahead of "normal." Michigan, in contrast, has had a different weather pattern and has experienced a later than normal harvest for 2009. Further, we have not had to irrigate our orchards for the past two years – again, not normal for Missouri, but welcome. The great weather pattern has contributed to a record harvest.*

*Our young chestnut orchards growing at our research farm in New Franklin, Mo., produced a record crop this year, which Ken Hunt estimated at 10,000 pounds (up from 6,000 pounds in 2008). This record chestnut crop has stressed out our farm's labor force (the nut wizard is simply inadequate for a harvest of this size). One of the issues that all commercial growers eventually face is "how can I pick up all those chestnuts on a timely basis?" Many growers in the eastern part of the U.S. rely on hand harvesting wherein harvesters are paid by the bucket. If you are fortunate enough to have a readily available seasonal labor force in your area, this is a viable option, but for many growers, high yields (tonnage) will eventually require some form of mechanical harvesting equipment.*

*How do you harvest your production? We would like to hear from CGA members to share harvest experiences for the benefit of our membership. MU's Michele Warmund received a small USDA Specialty Crop Block Grant to investigate the feasibility of using an inexpensive (~\$5,000) paddock vacuum to harvest chestnuts. Initial trial runs indicate that this type of small scale vacuum may be workable once we work out the "bugs" (stay tuned). We are not trying to reinvent the wheel, just to create something affordable. When we attended the 3rd International Chestnut Congress in Portugal back in 2004, growers were already using a FACMA harvest vacuum/cleaning system powered off the tractor PTO (expensive?) to harvest their chestnut crop. FACMA also makes a number of different models of their self-propelled harvester.*

*I hope the fall 2009 harvest season proves successful for all.*

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# What You Should Consider When Converting to Drip

by Jeremy Giddings, DPI Dareton, N.S.W. (reprinted from the *Australian Nutgrower*, December 2008)

*This article was originally written for the citrus industry however the author believes the aspects of drip irrigation systems described also apply to nut orchards.*

Many nut growers have and are considering converting to drip irrigation. The following list describes various aspects of a drip system to consider prior to accepting a proposed drip irrigation design. These are some of the questions you should ask your irrigation designer.

The general rule of “you get what you pay for” is extremely appropriate in irrigation. If the price of a system sounds too good to be true, it probably is. Many irrigators have thrown good money after bad replacing, updating and repairing inadequate systems.

## **Filtration**

Disk and gravel filters are the only real options for drip systems in hot regions such as Sunraysia. There are advantages and disadvantages in both systems. Consider the level of filtration required, size of housing available, backflush volumes and personal preferences. Also consider if the filters will be backflushed on a pressure differential or timer or both. Backup filters in the field are highly recommended, and a must if using existing pipework (which itself is not always recommended).

## **Dripline model**

There is a large range of dripline products around, including pressure compensated, non-drain and non-suck back. Unless a particular situation exists (such as changing elevation) it is usually best to use the simplest dripline available. This usually means in-line non-pressure compensating dripline. Basically, stick to well-known models with good track records.

## **Hydraulic lines**

An increasing trend is the use of 15mm PVC instead of the standard 8mm line. This is particularly the case if the property has a history of white ants [*termites*]. The extra capital cost is considered worthwhile as leaking lines are very difficult to detect and locate.

## **Flushing points**

These should be installed on the mainline and all submains. Lateral lines must also be able to be flushed. If laterals are to be collected into a flushing manifold, make sure this is properly designed to achieve a flushing velocity of greater than 0.5 metres per second

With a recent increased awareness of drip irrigation maintenance issues, some irrigators are discovering that their drip system was designed without properly considering the need for adequate flushing.

## **Fertigation**

Some drip systems are being installed without the ability to fertigate straight away. Apart from missing one of the main advantages in adopting drip irrigation (the ability to fertigate), on existing mature plantings in particular, fertigation must be commenced immediately upon conversion to encourage new root growth below the dripline prior to summer.

## **Future planning**

At the design stage, take into account all future possibilities. This includes designing the headworks with the ability to cater for the possibility of expanding or purchasing the neighbouring property, running extra blind submains in trenches to allow for future re-development of part of the property to a different variety, and running irrigation scheduling equipment cables in open irrigation trenches.

## **Backup and support**

Irrigation designers should be able to provide adequate backup and support. Certified Irrigation Designers (CID) with the Irrigation Association of Australia are highly recommended. [*The Irrigation Association is an international group and also operates in the U.S.*]

## **Plan early**

The best period for conversion to drip is normally straight after harvest. This gives the tree extra time to adapt to the new irrigation system without a crop to support. The July-August period is ideal. [*In the Northern Hemisphere this is the November-December period.*]

(cont. pg. 10)

# U.S. Chestnut Import Trends

by Ina Cernusca, MU Center for Agroforestry

The value of imports in 1,000 dollars for fresh, dried and shelled chestnuts are presented in Figure 1. After following an increasing trend between 2003 and 2006, the value of imports dropped by 15 percent in 2007, slightly increasing again in 2008 (Fig.1).

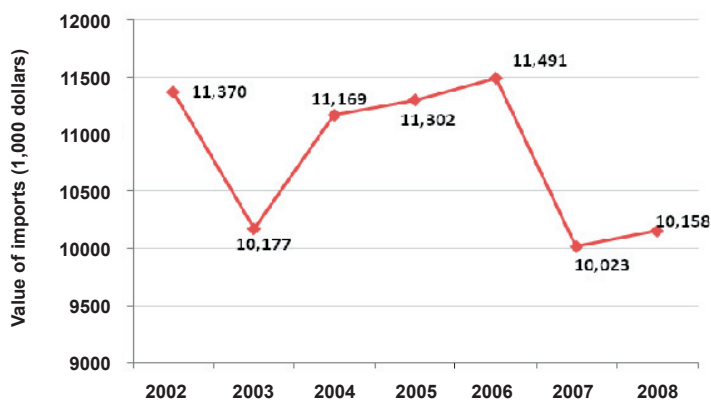


Fig.1

The quantities (in MT) of imports have been declining over the past seven years (Fig.2).

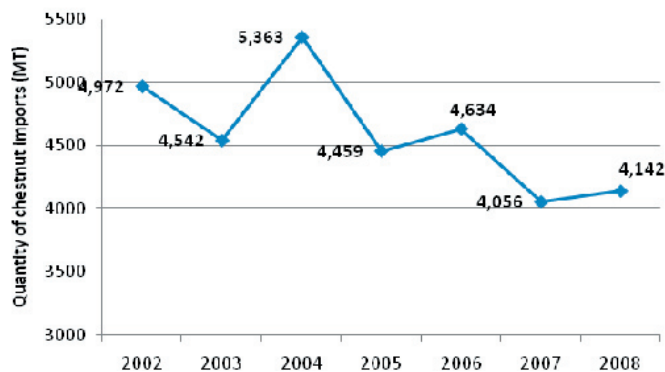


Fig.2

During the northern hemisphere “chestnut season,” between September 2008 and March 2009, the value of chestnut imports is presented in Figure 3. The highest import value was attained in November in preparation for the winter holidays.

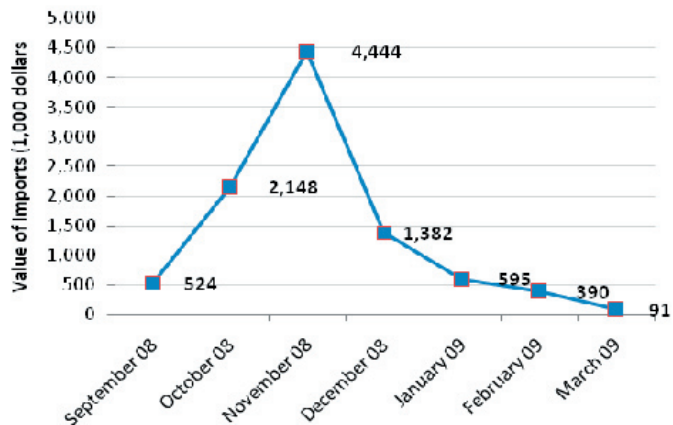


Fig.3

The source of chestnut imports for fresh, dried and shelled chestnuts is Asia and Europe with Europe being the primary source in 2005, 2006 and 2008 and Asia in 2004 and 2007. In 2008, the value of imports was very similar between Asia and Europe (Fig.4).

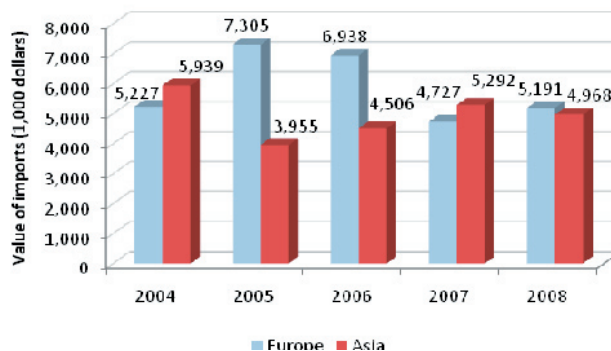


Fig.4

The main Asian exporters of chestnuts to the U.S. are China and South Korea (\$3.9 million imports from China and \$992,000 from South Korea in 2008). The dominant European chestnut exporter is Italy (\$4.7 million in 2008). CGA

All charts are from the United States Department of Agriculture, Economic Research Service, <http://www.fas.usda.gov/ustrade/USTImFatus.asp?QI=>

## What I Wouldn't Do Again

“Plant my trees at the wrong spacing. My first planting of Chinese chestnut seedlings was about 500 trees in 1972 (seeds planted in 1972). The seedlings were planted in an orchard with a spacing of 35-40 ft. in accordance with my dad's direction. Measurement was approximate; done by pacing. Little or no care was given to the trees for their first decade, not even mowing. By the mid 1980s the trees looked widely scattered in a sea of grass to be mowed. Production was 1,000 lbs. or less per year for the whole planting; per acre yields were too embarrassing to even think about. I vowed to never again make the mistake of planting trees that far apart. So, I planted my next orchard of 1,000 trees at a spacing of 6x8 meters (equivalent to 20x25 ft.). The seedlings planted at 6x8 meters began producing reasonably nice crops just before canopy closure at age 15-20; subsequently production

has leveled or declined at something around 1,000 lbs per acre. Meanwhile, the old widely-spaced planting has fully developed tree crowns that nearly fill the orchard space but with comfortable spaces between adjacent crowns. Production is around 2,000 lbs. per acre. So, I've vowed to never again make the mistake of planting trees closer than 35 ft. If you want to grow seedling Chinese chestnuts, or grafted Chinese chestnuts without a lot of pruning, they need to end up at a spacing of about 40 ft.” 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](mailto:hallmich@missouri.edu) or mail to 203 ABNR, Columbia, MO 65211. Contributions are anonymous.*

## Blogging Away (cont. from front page)

Which brings us to the advantages of starting a blog. With a blog, you define your message. It's positive advertisement, which you create. Blogs can form a connection between you and the consumer by letting them in to life on your farm, they give people a reason to keep checking your Web site, and they let you tell your story. By telling your story, you promote your farm and your products and provide positive news online.

There are a few different sites that can help you set up a blog – <https://www.blogger.com/start> (free), and <http://www.typepad.com/> (monthly fee) – are two that guide you through the step-by-step process to start your site. In less than 10 minutes you could be blogging!

Here are a few blog examples to help get your creative juices flowing.

### ***First, the Missouri Department of Agriculture's blogs:***

\* A Look at Missouri Farmers' Markets  
<http://mofarmersmarket.blogspot.com/>

\* AgriMissouri Showcase  
<http://www.agrimissourishowcase.com/>

\* Missouri Organics InterActive  
<http://missouriorganics.blogspot.com/>

### ***Producer blogs:***

\* Sellmeyer Farm  
<http://sellmeyerfarm.blogspot.com/>

\* Simpsons Family Farm  
<http://simpsonsfamilyfarm.blogspot.com/>

\* Sunflower Savannah  
<http://sunflowersavannah.blogspot.com/>

\* Lost Branch Blueberry Farm  
<http://lostbranchblueberries.blogspot.com/>

\* Webb City Farmers' Market  
<http://webbcityfarmersmarket.blogspot.com/>

\* Tiny Farm Blog <http://tinyfarmblog.com/>

Let us know your experiences with blogging – do you have suggestions for your fellow chestnut growers? CGA

## Notes from People Who Know

**G**reg Miller, Empire Chestnut Company, Carrollton, Ohio, was kind enough to come to our Horticulture and Agroforestry Research Center, New Franklin, Mo., to present at the third installment of the University of Missouri Center for Agroforestry's chestnut workshop series '09. He and Ken Hunt, UMCA research scientist, answered a variety of questions about chestnut pests, storage, etc., from the attendees.

I know the attendees learned a lot – because I sure did! I thought I'd summarize some of the items that came up for our readership:

\* Greg advocates a hot water bath for the nuts to ensure any weevils are killed. He performs the bath within 24 hours of harvest, then leaves the nuts in ambient temperature for three days. He then grades and puts the nuts in cold storage. Greg said the hot water bath will not alter the flavor of the nuts, *if* there is a three-day waiting period between the bath and consumption.

\* The most important thing Greg mentioned when it comes to chestnut storage is “don't let the nuts dry out!” He refrigerates his chestnuts in mesh bags but keeps them moist by hosing them down. Greg says nearly 100 percent humidity is ideal.

**Check it Out** Greg Miller also mentioned a Web site that might be of interest to CGA members: [www.ent.uga.edu/labels/chestnutinsecticide.pdf](http://www.ent.uga.edu/labels/chestnutinsecticide.pdf)

This site summarizes the chemicals suggested for use on chestnuts. *CGA*

**A**t our fourth and final '09 chestnut production workshop, our attendees were treated to a presentation and time for questions with Debbie Milks, Chestnut Charlie, Lawrence, Kan. The theme of the workshop was harvesting and marketing, and, being in late September, Debbie was able to tell – and show – participants exactly what was going on right then in their orchard!

Debbie and Charlie harvest entirely by hand and use a variety of carts to haul the nuts back to their processing area after deburring them in the field. Debbie calls the whole operation “low-tech.” She had a few suggestions that stuck in my mind for growers:

\* Consider buying a used truck-based refrigerator system when you first need to store chestnuts. It's smaller and less expensive than large walk-in coolers to start out. However, they have had problems with used refrigeration equipment and found that a good refrigeration company and new equipment are most valuable.

\* Debbie prefers a certain type of mesh bag for storing chestnuts. She said rashael mesh doesn't snag and spill chestnuts like leno mesh does.

\* Chestnut Charlie's does offer u-pick for the intrepid visitor. Debbie recommends giving small buckets rather than large containers to the u-pick-ers, as they will sometimes pick up more nuts than they really want when price is determined!

\* Sorting out the very small and the very large nuts gives the product a more pleasing, uniform look. *CGA*

**What's in a Name?** Debbie Milks mentioned in passing that the mayor of their town has the last name “Chestnut.” I thought to myself, “That's right!” Why? I get Google News Alerts every time the word “chestnut” is in the news, so every time the mayor of Lawrence is in the news, that article is sent to my inbox! Although a fair number of the articles I get are about the actual nut, many are not. Just for kicks, here's what I typically see on a daily basis:

\* An article about Joey Chestnut, speed-eating champion.

\* An article about Morris Chestnut, movie star, (and fairly hunky from what the stories say).

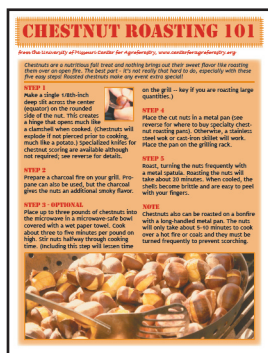
\* An article about a crime happening on Chestnut St. in some town. (Any town. Pick a town!)

\* An article about a chestnut-colored race horse.

-Michelle Hall

## ‘Guiding’ You and Your Customers

The University of Missouri Center for Agroforestry roasts chestnuts over what seems like every open fire in town each fall! We’re constantly getting requests from groups to come out to their fall or winter festivals and roast up some of our sweet Missouri-grown chestnuts. Although we’d love to take the time to attend all of these events, sometimes we have to “keep our day jobs,” if you know what we mean! So, we’ve taken what we’ve learned over the years and created a simple, five-step guide, “Chestnut Roasting 101.”



See the “Chestnut Roasting 101” guide at <http://www.centerforagroforestry.org/nutrition/chestnut101.pdf>

We’ve also prepared a “generic” version of our chestnut four-fold guide – we like to think of it as a “chestnut how-to.” The guide includes varied recipes to show chestnuts’ versatility; nutritional information; and a handling chestnuts section – scoring, storing, etc. We think this version could work for all of you!

See and print the guide at <http://www.centerforagroforestry.org/pubs/fourfoldgeneral.pdf> CGA

**Did you have an event for National Chestnut Week or sometime during the fall of ‘09? Send us the highlights for the Winter ‘10 newsletter!**

We thought we’d also share the guide with all of you – maybe you want to learn our “secrets,” or maybe you’d like to hand it out to your customers too. It answers a lot of the questions we get over and over!

## Chestnuts: Folklore, Traditions, Oddities and Medicinal Uses

While hunting down the specifics of a wine and chestnut tradition in Italy, I found an article at a Web site called “Vegetarians in Paradise” that has compiled much information about chestnuts, including a section on traditions and folklore. Many of these stories I hadn’t heard before, so thought I’d share here. (I know you can’t believe everything on the Web, but this site’s list of chestnut growers includes quite a few in the Chestnut Growers of America, so they must have done their homework, right?!)

\* Chestnuts were a dietary staple of the American Indians who taught the Pilgrims to cook them in stews or grind them into flour for bread. The Iroquois enjoyed a hot beverage made of roasted chestnuts that resembled our coffee.

\* The Cherokee handed down a legend called “The Bear Man” that tells of a bear that knew where to find a large mast of fresh chestnuts, during the years when they were becoming very scarce. He rubbed his stomach and instantly made paws full of chestnuts appear.

\* An old Corsican wedding tradition was to prepare 22 different chestnut dishes to be served on the wedding day, a challenging feat even for today’s renowned chefs.

\* Because chestnuts contain a natural sweetness, they were close to becoming an important source for producing sugar.

\* In Modena, Italy, chestnuts are soaked in wine before roasting and serving as a special preparation on St. Martin’s Day. To the early Christians chestnuts symbolized chastity.

\* The Cherokee treated heart disease with a tea made of old American chestnut leaves. They made a cough syrup of chestnut leaves, brown sugar and mullein and applied chestnut leaves dipped into hot water to sores.

\* In the U.S., we spoke of the poor subsisting on a diet of bread and water; the equivalent French expression was “fasting on water and chestnuts.” CGA

## A-‘gall’-ing Behavior (cont. from front page)

of each other. We found no other affected trees in any direction.

Galls hang on the branches for several years, and with time they shrink and turn gray, leaving a record of the infestation. Once we discovered this, we felt sure that one of the trees had some old galls from 2001 on one branch, thus the first gall wasp had probably arrived in 2000 and laid her eggs there.



I tried in vain to get the Ohio Department of Agriculture to destroy the four trees before the new crop of gall wasps emerged, but as I said, it was in vain.

By the end of that summer a gall wasp had found its way 35 miles to my Hiram, Ohio, orchard. It took them another year to find my Mantua, Ohio, orchard, although it was five miles closer to the initial outbreak.

I think it was at our 2002 meeting of the NNGA that Dr. Norton announced that around Auburn, Ala., the gall wasp had virtually disappeared. We knew that Dr. Jerry Payne, who did most of the early work on Oriental Chestnut Gall Wasp in the U.S., had helped introduce several natural predators, one of which was *Torymidæ Sinensis*, a small parasitic wasp which feeds on the larvae of Oriental Chestnut Gall Wasp. This had become well established and most of us felt sure that *T. Sinensis* had finally built up a sufficient population to overwhelm the Oriental Chestnut Gall Wasp.

I talked to Dr. Payne on the telephone about it. He wasn't sure that *T. Sinensis* was the cause of the Oriental Gall Wasp decline. Whatever was controlling them seemed to be moving along with the main front of the original infestation. Dr. Hill Craddock told me that in the Chattanooga, Tenn., area, the gall wasp population spiked over a three year period, then crashed.

Dr. Rodney Cooper and Dr. Lynne Rieske-Kinney, with the help of an NNGA grant, began a study of the interaction of the Oriental Chestnut Gall Wasp and its predators in 2005 or 2006, choosing the Broadview Heights, Ohio, location and my Hiram Township orchard as study sites. I was

amazed to hear that they found *T. Sinensis* parasitizing the galls at both Ohio locations. The joy I felt on hearing this is hard to imagine. I felt assured that the gall wasp population would crash within a year or two. It still hasn't; instead it is beginning to look like it is developing a cyclic behavior similar to the three or four year cycle that Dr. Norton saw for the first 20 years or so of its presence at Auburn University.

In my Hiram orchard, the infestation hit a peak in 2007, and there has been a small decline in severity for the last two years. At Broadview Heights, Ohio, the peak infestation came in 2004 when some of the trees looked as though they might die. Since then, the severity has declined, and the trees have recovered somewhat, but are still heavily infested with gall.

Since the discovery of Oriental Chestnut Gall in Broadview Heights, Ohio, I have tried to follow its spread. I feel confident that it has spread about three times faster to the east than it has to the west, probably due to prevailing wind direction. My best guess is that it has spread about 30 miles per year to the east, 10 miles per year to the west, and 15 to 20 miles per year to the south.

Studies by Cooper and Rieske-Kinney have shown that many factors contribute to Oriental Chestnut Gall Wasp mortality. These include several predatory wasp species, certain types of fungus as well as other predators and diseases, both known and unknown.

There are probably some enemies of the gall wasp present in the southern United States' infestation that are not present in the satellite infestations – like the Ohio infestations – or it may be that predators and diseases have evolved or learned how to exploit Oriental Gall Wasp more efficiently over time in the southern infestation. It is hard to say.

The gall wasps here in Ohio emerge from the galls in late July and lay eggs in the buds that will become next year's growth. In August, most of the plant growth beyond the gall dies off. The resultant small clusters of dead leaves are easy to see. Usually the last few (cont. pg. 10)



We thought you might be interested in this chart from the Census of Agriculture. It gives sort of a "snapshot" of our industry!

**Table 32. Fruits and Nuts: 2007 and 2002 - Con.**

[Totals may not add due to rounding. For meaning of abbreviations and symbols, see introductory text]

Geographic area	Total		Bearing age acres		Nonbearing age acres	
	Farms	Acres	Farms	Number	Farms	Number
<b>CHESTNUTS (SEE TEXT)</b>						
<b>United States Total</b>						
United States.....2007	1,200	3,335	845	2,072	538	1,262
.....2002	(NA)	(NA)	(NA)	(NA)	(NA)	(NA)
<b>States, 2007</b>						
Alabama.....	34	26	25	18	11	9
California.....	76	334	62	(D)	31	(D)
Connecticut.....	14	35	11	31	3	4
Florida.....	81	283	63	203	28	80
Georgia.....	29	36	19	15	13	21
Hawaii.....	1	(D)	-	-	1	(D)
Idaho.....	6	51	6	6	1	(D)
Illinois.....	26	13	13	4	18	(D)
Indiana.....	8	16	5	(D)	3	47
Iowa.....	32	122	16	48	22	(D)
Kansas.....	5	39	5	(D)	4	(D)
Kentucky.....	48	43	37	29	19	14
Louisiana.....	1	(D)	1	(D)	-	-
Maine.....	10	9	9	(D)	3	(D)
Maryland.....	29	39	21	27	9	11
Massachusetts.....	12	9	8	(D)	4	(D)
Michigan.....	154	813	120	492	76	321
Minnesota.....	7	(D)	4	31	5	(D)
Mississippi.....	9	12	1	(D)	9	(D)
Missouri.....	22	95	8	40	19	56
Montana.....	1	(D)	-	-	1	(D)
Nebraska.....	7	5	2	(D)	5	(D)
Nevada.....	4	(D)	-	-	4	(D)
New Hampshire.....	2	(D)	1	(D)	1	(D)
New Jersey.....	12	(D)	10	(D)	4	(D)
New York.....	37	120	29	55	13	65
North Carolina.....	42	92	29	40	17	52
Ohio.....	69	279	46	227	28	52
Oklahoma.....	1	(D)	1	(D)	-	-
Oregon.....	92	333	69	207	53	126
Pennsylvania.....	120	135	87	84	44	51
South Carolina.....	22	21	13	(D)	10	(D)
Tennessee.....	16	10	15	(D)	2	(D)
Texas.....	3	2	-	-	3	2
Utah.....	4	(Z)	4	(Z)	-	-
Vermont.....	3	(D)	-	-	3	(D)
Virginia.....	66	157	46	96	24	61
Washington.....	43	66	31	43	16	23
West Virginia.....	51	70	28	23	30	47
Wisconsin.....	1	-	-	-	1	(D)

## Australian Chestnut Industry (cont. from page 3)

Conversions during less than ideal periods, with trees carrying heavy crop loads have occurred but the risk of problems is much higher, particularly if early heatwaves occur. Carry out a soil survey now and begin discussions with an irrigation designer. CGA

*Reprinted from Australian Citrus News, April/May 2008, published by Agrihort Services, Mildura Victoria.*

## A-'gall'-ing Behavior (cont. from page 8)

buds on the more vigorously growing branches of the trees will escape infestation, leaving me to believe that some of the growth occurs after the gall wasp egg-laying activity ceases.

As the infestation intensifies, the trees become stressed. Shaded branches, which are not vigorous growers, lose most of their growth to galls and die off. Affected trees develop a sparseness of leaf surface, particularly on the inside of the tree. At this point, diseases like blight may begin to kill trees that have shown no obvious susceptibility to that point. Other damaging insects and conditions may overwhelm and kill trees. This is especially true on poorer sites where trees are suffering from other environmental stresses. Of course, nut production suffers accordingly.



I have a young chestnut orchard in Mohicanville, Ohio, which is about 60 miles southwest of Broadview Heights. I first saw gall wasp there in the summer of 2008. I had learned from the work of Cooper and Rieske-Kinney that *T. Sinensis* overwinters in old galls. I decided to put this information to use by setting a little trap of the gall wasps in Mohicanville. I collected a truckload of old galls from my infested orchards during the dormant season and suspended them in the trees of the Mohicanville site to overwhelm the small gall wasp population there with *T. Sinensis*.

One interesting observation I would like to mention here is that gall wasps have their favorites. Generally they seem to love Gelatly trees the best. This includes seedlings of Lay-eroka, Behind the Broadview, Gelatly and Skyoka.

I think I have seen gall on almost every one of my Hiram and Mantua seedlings, but there are some – about one out of a thousand – that have to this date never had a gall. A small proportion of trees – maybe 15-20 percent – have only been infested lightly and don't seem to suffer much.

I know pride is not a virtue, but I have to admit, I was feeling it as I told Dr. Rieske-Kinney what I had done – that is until she told me regretfully that although *T. Sinensis* was present in my Mantua orchard in 2007, she had found none in 2008. Some of the galled branches I took down came from my Hiram, Ohio, orchard, so I guess there is still a chance. One has to be optimistic.

If you come to the NNGA annual meeting in Wooster, Ohio, from July 18-21, 2010, you can find out first-hand if it worked! CGA

*Thanks to Bob Stehli for the article and photos.*

## One More Way to Get Chestnuts Roasting on Local Open Fires

For the '09 chestnut season, we have prepared for all of the Chestnut Growers of America members a general, informative chestnut article. Feel free to send this to your local newspapers, agricultural newsletters, etc., after filling in your contact information, below in the blanks. If you have an idea for an article topic for next year, please pass it along! We will also post this article on our Web site: <http://www.centerforagroforestry.org/nutrition/index.asp>, for easy downloading.

There's so much more to chestnuts than "roasting on an open fire."

Although the traditional way to prepare chestnuts also is one of the most delicious, it is far from being the only way to get your fall chestnut fix.

There's really no end to the number of ways chestnuts can be prepared and served.

They can be incorporated into a wide range of dishes, from hearty soups and poultry stuffing to appetizers, salads, casseroles, pastas, stir-fries and pastry fillings. Chestnuts can be ground to thicken and enrich soups and dips. They can add crunch to Thanksgiving stuffing, as well as pastas, salads and casseroles. They can be pureed for pastry and ravioli fillings both sweet and savory. Nearly every course benefits when you add chestnuts to your shopping list!

In addition, items like chestnut baking flour are emerging to meet demand in the gluten-free and restricted diets market. Niche markets for gourmet products like chestnut honey and soup mixes are also growing.

Chestnuts are seasonal – they are harvested beginning in early fall. The nuts don't keep indefinitely in a bowl on your counter as do other nuts, however. Chestnuts are more like a vegetable, and must be stored in the refrigerator. Use them within about two months – they are perfect for special dishes during the winter holidays.



Your local chestnut grower, \_\_\_\_\_  
 (your business name) \_\_\_\_\_

\_\_\_\_\_, is a member of the Chestnut Growers of America and has your holiday chestnut needs covered. Contact them at \_\_\_\_\_ (phone, e-mail, and/or Web address) \_\_\_\_\_ by \_\_\_\_\_ (date) \_\_\_\_\_.

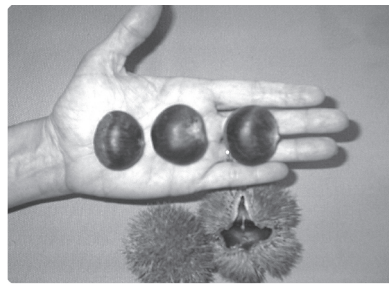
Find recipe ideas from the Chestnut Growers of America online at <http://www.wcga.net/recipes.htm>

*Prepared by Michelle Hall, senior information specialist, University of Missouri Center for Agroforestry, for use by members of the Chestnut Growers of America.*

**Do you ship chestnuts to customers overseas? What are the tips and tricks, rules and regulations you've encountered? Let us know for a future Chestnut Grower article.**



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