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U of MO Center for Agroforestry Receives 2013 Specialty Crop Block Grant

The University of Missouri Center for Agroforestry has received a 2013 Specialty Crop Block Grant Program Award from the Missouri Department of Agriculture. The goal of this project is to support growers' efforts to mechanize chestnut harvests. Rapid and efficient chestnut harvesting is essential for growers to expand their acreage, minimize labor costs and maintain a top quality product for the marketplace. Mechanization will increase the competitiveness of locally grown chestnuts and enable domestic growers to produce the tonnage required to replace imports.

The project objectives are to: (1) Support growers' efforts to mechanize the harvest of Missouri's growing chestnut orchard acreage through harvest demonstration workshops; (2) Conduct a "time-and-motion" study to quantify the labor saving benefits of a <u>commercial</u>

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High Rock Farm to be Site of 2014 CGA Annual Meeting



High Rock Farm in Gibsonville, NC, will be the site of CGA's 2014 annual meeting. The farm is owned by CGA member, Richard Teague. Established in 1807 it was built by John

McCain's fourth great-grandfather. With an orchard of 20 acres and 500 Dunstan trees they produce over 20,000pounds of nuts a year and have a number of value-added products. They host numerous events during the year including a Chestnut Roast that reveals outstanding marketing expertise. Those attending will have an opportunity to go through the home at the Friday night reception.

Teague's marketing director, Brianne McAlister, is doing a superb job of organizing a meeting that members will find of interest and useful. Though this puts two consecutive meetings in the east, westerners will be well-advised to make plans now to attend. This is a meeting you won't want to miss. The meeting will be held Friday, June 20, through Sunday, June 22, beginning with dinner and a reception at the farm on Friday evening.

Speakers are being lined up and some of the topics to be covered include the Food Safety Modernization Act, value-added products, marketing, and high density planting. The meeting is in the beginning stages of planning at this time and many more topics will be on the docket.

The headquarters hotel will be the Hampton Inn in Burlington, NC, with other lodging to choose from nearby. Those planning on flying will arrive at the Greensboro airport.

Registration forms will be found in the April newsletter.



A MESSAGE FROM THE PRESIDENT

This is my first CGA Newsletter message as your newly elected President of Chestnut Growers of America. I look forward to working with all of our members and our Board of Directors in continuing to grow our organization of chestnut growers and provide the best information about the chestnut industry. The CGA Board would like to thank Carolyn Young for volunteering to be the new editor for the newsletter replacing Mike Gold, who has done a great job. Carolyn has been the editor in past years and I know she will be an excellent editor for our organization's newsletter in the coming years. In having said that, I want to thank Mike Gold, our immediate Past President for all his time and effort in leading CGA. In my message I want to tell you about me as a chestnut grower, discuss the development of the chestnut industry in the United States, and give an update about our next

annual meetings in 2014 and 2015.

I grow chestnuts in orchards in Michigan on the west side of the state. Currently our orchard consists of 800 chestnut trees, with the majority being the cultivar Colossal. The orchard is twelve-years-old and has in the last couple of years produced upwards of seven and half tons of chestnuts. As a chestnut grower, I am also the President of our Michigan Chestnut Cooperative, Chestnut Growers, Inc. which is helping to establish a commercial chestnut industry in the state of Michigan. We are just finishing our season having sold our entire chestnut production. In fact, yesterday was our last chestnut peeling operation for 2013 and every chestnut in the freezer has a buyer already. Obviously, many of you reading this message are growing the chestnut industry throughout the United States in your respective locations and have already sold out, too. Yes, the demand for good tasting, high quality, fresh and frozen chestnuts is far greater than our supply and value-added chestnut products must be part of the equation as we grow our industry.

This brings me to my next comment about the chestnut industry. We need more growers to develop chestnut orchards throughout the country. Currently, our Cooperative has been involved with Michigan State University in helping to develop and fine-tune a working economic model to demonstrate the return on investment in establishing and maintaining a chestnut orchard. This business model shows that a chestnut grower can make comparable incomes or even better incomes than other sustainable crops such as apples or other tree crops. This economic model will be presented on December 10, 2013 at the Great Lakes Fruit and Vegetable Expo in Grand Rapids, Michigan.

My message today is to remind everyone of our next annual meeting in 2014. This meeting is scheduled to begin on Thursday June 19, 2014 and end on Sunday June 22, 2014. The location will be at the High Rock Farm, 960 High Rock Road, Gibsonville, North Carolina 27249. More details of the annual meeting will be coming in our next newsletter. Our Board has a tentative location for the annual meeting for 2015. Once again, I want to thank you for the opportunity to lead Chestnut Growers of America and for all of your support. I am not sure when you will receive this newsletter, but I along with the CGA Board hope you take the time this holiday season to enjoy family and friends. We wish you all a Merry Christmas and a Happy New Year.

Roger V. Blackwell

EDITOR'S NOTES

It looks like I'm back in the saddle again after an eight-year hiatus. When I started the newsletter in 1999, in addition to understanding the importance of an organization having a newsletter that truly represents it and wanting to provide that, I also had an ulterior motive. I knew that in the role of editor I had an excuse to ask endless dumb questions, and boy did I. Having written over 16,000 invoices by now I think I'm officially out of the novice class.

My plans for the newsletter are to provide information that will make growers successful or more successful, depending where they are on the learning curve. We all have different interests and different needs so the plan is to have a little something for everyone. If you hear of something that might be of interest please let me know about it. If you're inclined to write, so much the better.

We all owe a vote of thanks to Mike for his efforts since '05 despite budget and staffing challenges. We know it hasn't been easy. We all appreciate your efforts, Mike.

arolyn

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EDITORIAL OPINION

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Chestnut Grafting - Collecting Scionwood

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This is the first in a two-part article on chestnut grafting. First, let's make a few terms clear for those without prior grafting experience. Scionwood is the term used for the chestnut branch material that is desired to be grown and which will be grafted onto an existing tree. Scion is the term for the portion of scionwood material that has been prepared for grafting. Buds are the points of future growth along scionwood and are directly above a scar from where leaves previously had grown. Stock is the term used for the term where leaves previously had grown.

will be grafted onto.

There are several considerations to take into account when collecting or otherwise acquiring scions for a grafting project. You should plan your grafting project so that you will have the appropriate scionwood material to accomplish your goals. There is some flexibility, but I generally prefer scionwood of 1/4" to 3/8" in diameter when grafting onto stock of 1-1/2" or greater in diameter. As stock gets smaller, I will collect a greater variety of sizes in scionwood to allow for different types of grafting, preferably with scionwood being at least 1/8" in diameter, although I have used smaller wood when that is all that was available. Scionwood should be collected once trees have become dormant, having lost at least most of their leaves. Scionwood should also be collected before trees have been exposed to hard freezes in those areas with harsh winters. I have sometimes decided on a new grafting project and not collected scionwood until early March but buds have sometimes already started to show signs of growth. This can work, but success rate drops and the length of time the scionwood in this condition can be stored in refrigeration is greatly reduced.

Compatibility is a complex issue that will only be touched on briefly here since firsthand experience may be the only thing a person may truly be able to rely upon. We are mostly dealing with chestnuts that are the American, Chinese, European, and Japanese species or hybrids of two or more of these. Compatibility is typically greatest when grafting a scion of the same species as the stock. If other combinations are made, the level of incompatibility may result in stunted grown, delayed failure, or lack of any growth at all. Since there are many varieties that are hybrids (i.e., Colossal and Bouche de Betizac are probably both European-Japanese hybrids), compatibility becomes more difficult to predict. When grafting in 2002 I expected Bouche de Betizac to graft easily onto Colossal since they were believed to be similar hybrids but I had a high percentage of



grafts that showed compatibility problems with reduced growth and poor graft unions (the point where the bark of the scion and stock meet). At the same time, I grafted a variety called Saint Helens (believed to be a hybrid of American, European, and possibly another species) onto Colossal and had modest hopes for success but it has grown extremely well. I would suggest, however, not grafting other species onto Chinese or grafting Chinese onto other species, though others may have different experiences than me. One way to overcome some compatibility problems is by first grafting a variety that is compatible

with both the stock and the final desired variety and grafting onto that new limb (known as an "interstem") the following year. In summary, just keep compatibility issues in mind when collecting scionwood and consider experimenting on a small scale first if unsure.

When selecting branches for scionwood, look at branches that grew this past season. Branches will usually have a change in color in the bark and an irregular joint where this past season's growth meets with the wood that is slightly over one year old. Some varieties are more prone to have



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The Eradication Response to the Incursion of Chestnut Blight in Austra-

lia An Industry Perspective

by David McIntyre

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Cryphonectria parasitica (Cp.) was detected in an Australian chestnut orchard in September 2010.

The Australian chestnut industry, centred on the north and west slopes of the Australian Alps in North East Victoria, has been free of all introduced chestnut diseases and insect pests including Cp. However, a breach of quarantine resulted in Cp. being found between 2010 and 2012 on 11 linked properties in close geographic proximity in the Upper Ovens Valley region of north east Victoria

menADepartmention Brither Industry 60 Pher Wiordiate brane posedna quarantine zone over the entire chestnut producing area of north east Victoria and surveyed 150,000+Castanea sp. trees, 1200 Eucalypt sp. and 448 Quercus sp. The result of this survey indicated Cp. was in a limited geographic area and eucalypts within 5kms of infected properties were inspected confirming it had not transferred to native eucalypt forest species. Based on these results, the DPI, in consultation with Industry representatives and the Australian Government, implemented an eradication program.

The eradication program has resulted in 5330 chestnut trees and 49 Quercus being destroyed, which were all host trees located within a 100 metre radius of any detected Cp. infected tree. The tree destruction program was combined with an ongoing surveillance and research program whose aim was to determine the main vectors of Cp. infection in the Ovens Valley and undertake a quantitative assessment of actual ongoing Cp. infection, if any. This information was used to develop a risk management strategy for the eradication response.

The results of this program are such that only one Cp. infected

David McIntyre is spokesman for Chestnuts Australia and was a speaker at the II European Congress on Chestnut.

CGA Nominating Committee Now at Work

Dennis Fulbright and David English have been appointed to the nominating committee for 2014, with one person pending. If you think you might be interested in being considered for a board position let one of them know. Over the years the nominating committees have sought to maintain representation from all parts of the country, and have sought out those practicing all forms of agriculture and sales methods. All regular members in good standing are eligible.

See U of MO p. 5

U of MO from p. 1

harvester; (3) Create, demonstrate and release a Chestnut Financial Decision Support Tool to help chestnut growers and other decision makers (e.g., cooperatives, agricultural lenders) make financially sound management and investment decisions; and (4) Provide

Scionwood that is in ideal condition when collected may be

scions when it comes time for grafting. See Grafting, p. 5

Grafting from p. 3

significant ridges in the bark running along the length of the young branches and these can be more difficult to make into successful scions so look for branches that are fairly round, if possible. It is desirable to have buds approximately 3/4" to 2" between one another, uniformly spaced. Trees that are less vigorous will have buds that are spaced closely together which can also make preparation of a successful scion difficult. Less vigorous branches may also have buds that are smaller. So look for branches that are round with fat buds that are uniformly spaced 3/4" to 2" apart. Avoid cutting scionwood shorter than necessary. I will sometimes store scionwood for small projects in a gallon size Ziploc bag and will cut the scionwood into approximately 10" lengths just so they will fit into the bag. For larger projects, I will leave scionwood 2'to 3'long. During storage the tips may turn brown and need to be discarded so the longer lengths results in less waste. The longer lengths also allows for greater flexibility in selecting individual

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stored under refrigeration for a year or longer. Place the scionwood into plastic bags that are thick such as Ziploc bags. Plastic bags that are thin will allow moisture to be lost more easily. Scionwood that dries out will die. Although I have not had to wash scionwood, if debris or something such as sooty mold are present at time of collecting, it would be a good idea to wash the scionwood off before storage. Scionwood should not be wet when stored so dry off any water with a towel. Placing a single paper towel that is damp (not dripping wet) into the bag will help reduce chances of scionwood drying out. It is best if scionwood can be stored in a refrigerator which you do not place warm food into since the fluctuating temperatures may reduce the lifespan of the scionwood. Label your scionwood in a manner that ensures varieties are known and not mixed up when it comes time for grafting. I prefer separate bags for each variety. You may now wait until at least Spring before grafting. Grafting and maintenance of grafts will be covered in the 5



September Storms Batter Northwest Orchards

Unlike those employed on an assembly line in the local widget factory, farmers face unknown problems that can occur at any time and without warning of what will occur. Lee Williams, Trails End Chestnuts, in Moses Lake, WA, reports that in the early evening of Sept. 15, a severe thunderstorm came in with 65 mph winds that lasted for about two hours. Pictures 1 and 2, left, are the result. Four sixty foot elm trees were completely uprooted when what appeared to be a tornado cut a swath across the orchard and threw them into the orchard destroying another ten trees.

Lee says that 40 mph winds are not uncommon in his area and the tree in Picture 3 is the result of those gusts. The discouraging result is the number of green burrs blown off the trees. About 50% of his crop was lost.

The Bole's in Sherwood, OR, just south of Portland, OR were lucky to avoid the worst of the winds and reported only one tree with significant breakage.

The Young's at Allen Creek Farm just north of Portland, OR, had significant damage with strong gusts coming through when the trees were loaded with burrs that were within a few days





of dropping. See Pictures 4 and 5.

About a dozen trees had to be cut to within a few feet from the ground. The good news is that when cut at this time of the year they will survive. If this were to happen in November or December chances are the trees would die.

One of the things they have noticed is that in this Colossal/Nevada orchard, only the Colossals are damaged by winds regardless the time of year. The orchard is 14 years old and no Nevadas have been damaged.

Mike Dolan reports that at their Burnt Ridge Nursery in Onalaska, WA, they didn't experience any storm damage from the recent storm though they did receive 50 mph winds and 6.5 inches of rain in 3 days.





European Chestnut Congress Provides Valuable Information

Michigan State University

The 2nd European Congress on Chestnut was held in Debrecen, Hungary from the 9th to the 12th of October, 2013. The meeting was unique in that it was the first international chestnut meeting actually held in three countries. Trips to Romania and Slovakia were included to show the similarities and differences among the chestnut forest situations in these adjacent



European chestnut (Castanea sativa) trees in Modry Kamen, Slovakia dead and dying from recent chestnut blight infection. Branches on trees to the right died in 2013.

countries. More than 100 registrants attended the conference representing 25 countries and 5 continents. Most sessions and presentations were good but perhaps the overall best session of the meeting was the opening session where Professor Giancarlo Bounous, University of Torino, Italy, offered his Perspectives and Future of Chestnut in Europe and All Over the World. This presentation was one of the best I have heard on the outstanding characteristics of the chestnut tree (regardless of species) and its continued use throughout the world. Dr. Bounous has been the Chairman of the International Society for Horticultural Science committee on chestnut for the past 8 years. As he stepped down at the meeting, Professor Umit Serdar of Ondokus Mayis University, Samsun, Turkey was elected the chairman to replace Dr. Bounous. Some you may remember Umit Serdar when he attended our CGA meeting in Missouri in 2011.

This presentation was followed by Mark Double of West Virginia University who provided a summary of all the presentations made at the last International Chestnut Symposium held in Shepherdstown, WV, September 2012. He covered every presentation in 30 minutes in an entertaining and factual manner.

George Melika of the National Food Chain Safety Office, Budapest, presented a Asian chestnut gall wasp overview. If someone had not known the biology of the pest and its natural and introduced antagonists, this was a great opportunity to learn. He did a thorough job summarizing how the pest moved from Asia to the USA and then to Europe via Italy. While the pest is still moving, there are now hints that the problem is slowly abating in northern Italy, Winter 2014



CHESTNUT HUMMUS

- 1 C dried chestnut chips
- 3 C water
- 1 C tehina
- 2 garlic cloves crushed
- 1/2 C lemon juice
 - Salt to taste
- 2 Tbsp pine nuts
- 3 Tbsp olive oil
- pieces pita bread 6
- a few sprigs of fresh parsley

Rehydrate the chestnuts with 3 C water. Retain the water. Brown the pine nuts in 1 Tbsp of the olive oil. In a blender combine 1 C of the rehydrated nuts with the tehina, garlic, lemon juice pine nuts, the rest of the olive oil and salt. Add the retained water as needed. It may be necessary to blend the mixture in 2 batches, then finish by using a mixer to blend all the ingredients together. The texture should be such that dipping pita is easily done. Garnish with a few sprigs of fresh parsley.

Grill the pita until grill marks begin to show. Cut each piece into 8 wedges.

Adapted from Simply Israel, A Collection of Recipes from the People of Israel, T. Gila Levine, Hummus with Tehina



Chef image courtesy of Grant Cochrane / FreeDigitalPhotos.net

more than 10 years after its introduction there.

Chestnut blight and its biological control by fungal viruses, and the application of the biological control were presented by Daniel Rigling of Switzerland and Stephanos Diamandis of Greece, respectively. Again, two excellent presentations that provided both the history of the worldwide pandemic as well as the biology of the pathogen and the viruses that slow it down. We learned that



Professor Giancarlo Bounous, University of Torino delivers the opening session paper on the importance of chestnut and it future.

the European Union has spent $\in 6,000,000$ on a program where nearly every chestnut tree with chestnut blight has been treated with hypovirulent strains (the pathogen carrying the viruses) in an attempt to save the Greek chestnut forest.

A presentation we were all waiting to hear was given by David Mcintyre representing Australia. The subject was chestnut blight in Australia—its introduction and its eradication. It appears that some scion wood or small trees with blight were brought into Australia years ago and the blight exploded in the orchard once its owners abandoned it. Most the blight cankers were not found too far from the original orchard, but unfortunately many orchards were destroyed during the eradication program. It is now thought that all the cankers and orchards with cankered trees have been culled and many growers are beginning to replant.

I came away from this meeting with mixed feelings. It was a meeting with good fellowship and camaraderie with much good discussions and follow up questions. If you think chestnut blight is the worst problem on chestnut trees in Europe, you might be surprised to discover that this devastating disease has almost disappeared in some places in Europe due to a natural biological control called hypovirulence. Hypovirulence is where the fungus causing the disease has picked up a virus infection and the result is that the tree has the ability to survive the infection. However, in Eastern Europe (Hungary, Slovakia, and Romania, for example), trees are still dying. On a field trip to Modry Kamen, Slovakia as part of the meeting's tour, parts of the chestnut forest looked similar to the old black and white photos of the Appalachian Mountains during the advent of blight. Large dead and dying trees hung over our heads as we walked along the paths. However, efforts to spread the naturally occurring hypovirulent fungus have begun to show results as trees in some locations have begun to heal over the infections.

Unfortunately, this is not the end of the problems on chestnut. Throughout Europe, the chestnut tree seems to be cursed as the soilborne root rot fungus caused by *Phytophthora* is also killing trees

that had been saved by hypovirulence and now the Asian chestnut gall wasp insect is reducing yields of the fruit and reducing the availability of scion wood used for grafting. European forest managers and scientists have formed working groups to help combat these invasions, such as in Greece, but some are worried the resilient tree cannot stand up to more. While saying that, a new nut rot disease has shown up in Europe called brown rot. Brown rot, caused by the fungus Gnomoniopsis (No-me-op-sis), causes a chalky whiterot appearance in the kernel of the chestnut. It was first noticed in New Zealand several years ago. It is not certain, but it appears to gain entrance to the nut kernel sometime during the growing season. Of these four maladies, chestnut blight and Asian gall wasp can be successfully managed through both naturally occurring and well-planned biological deployment programs, but these take time and resources. There are few controls for Phytophthora root rot or the new brown rot disease of the chestnut fruit. While the people of Europe still cherish their chestnut trees, yields are dropping in many countries and concern for the commercial survival of the tree is increasing. I came away from this meeting feeling even more confident that chestnut or Castanea is one of the greatest plants of all time, but very concerned for its continued commercial existence.

In 2009, the 1st European Congress on Chestnut and the 5th Italian National Chestnut Conference were jointly held in Cuneo, Italy. Now that the 2nd European Congress was held solo in Hungary in 2013, the next Italian National Chestnut Conference has been scheduled for Viterbo, Italy September 22-26, 2014. See you there.



Mark Double, West Virginia University, eats a traditional dessert of chestnut puree and whipped cream at dinner in Baia Mare, Romania, at the 2nd European Congress on Chestnut.