

It's Still Not Too Late to Register for the NNGA Annual Meeting ... but it's sure coming close!

If ever there were an NNGA meeting that would appeal to chestnut growers, the annual meeting scheduled for July 13-16 at MSU in East Lansing, MI, is sure to be the one. Attendees will be able to see the new chestnut peeler acquired from Italy as well as visit chestnut orchards in the vicinity.

Coordinated by Dennis Fulbright, there will even be a chestnut cookoff!

The board meeting will be held beginning on Saturday, be completed on Sunday, and is open to all members.

Lodging is available at the Kellogg Center or in the Butterfield Hall dormitory on campus.

There are tours and activities available to those who accompany members and are not interested in the meeting itself. In addition, East Lansing and the surrounding area has many attractions that will make a summer vacation more than special.

The NNGA auction is always a popular event with goods donated by members and the proceeds going to the NNGA Research Fund.

Those members who would like to have an exhibit of their orchard or products are welcome to do so.

For information on registering check the NNGA website at <http://www.icserv.com/nnga/meetinfo.htm>, or contact Alan Van Antwerp at avanant@netonecom.net or by phone at 213-829-3433.

ppp

In This Issue

- 1 NNGA Meeting
- 1 WCGA Annual Meeting
- 2 President's Message
- 3 Harvesting Chestnuts
- 6 MSU Chestnut Exhibit
- 7 Chestnut Congress Cancelled
- 8 Value of Leaf Analysis
- 9 Grower Develops Harvester
- 10 WCGA Clothing Order Form
- 11 Annual Meeting Minutes
- 12 Membership Application

'03 Annual Meeting and Orchard Tour Prove to be Huge Success

Brush Prairie, WA, was the site of the 2003 Annual Meeting for the Western Chestnut Growers' Assn. on June 28-29. Members were fortunate to have an abundance of outstanding speakers on topics from management to marketing.

Ken Hunt, PhD, Post Doctoral Fellow at the University of Missouri's Center for Agroforestry, and Mike Gold, PhD, Associate Director for the Center, talked about their goal of establishing a chestnut industry in the Missouri area. They have about 50 cultivars planted between 1996 and 2003 and are evaluating 12 of those for applicability. Harvest time, nut size and other attributes are being cataloged.

Hunt and Gold both expressed their feeling that there is a great potential for chestnut sales in the United States, because of the current low level of consumption.

Greg Miller, PhD,



Dr. Adel Kader talks to attendees about post harvest techniques.

Carrollton, Ohio, spoke about his trip to China in '01, to talk with government officials there about their chestnut industry. He said that in the last 15 years they have been planting chestnuts in increasing numbers. Everyone seems to use the same techniques. All orchards are planted with the same spacing (about 3-4 m between trees) and all trees are pruned using the same pruning techniques.

According to Miller, the flavor and quality of their nuts is very good. They stay yellow even after cooking.

Chinese harvesting techniques are very labor intensive and the typical 15 year-old tree yields about 5 kg (11 lbs), with yields continuing to increase. Nuts are knocked out of the trees with bamboo poles. Officials said that they can store their nuts through May by maintaining them in an atmosphere between -2 and +2 deg. C and 85-95% RH. They allow nuts to breathe for 10 days before closing them in woven poly bags.

The Chinese are developing value added products. Nuts are roasted commercially in gravel in a rolling roaster. Then they are quickly packed and shipped to mar-

kets for sale that day in their delicatessens.

Chinese production today is about 150,000 to 200,000 tons and is increasing at about 10% per year. They account for about one fifth of the world's production. Wholesale prices are about \$0.75 to \$1.00/lb.

Dr. Adel Kader, UC Davis Professor of Postharvest physiology, Dept. of Pomology, spoke on post harvest storage of chestnuts. He emphasized the importance of keeping nuts clean and picking them up daily and said that the most important things to con-

See Annual Meeting, p. 4



A MESSAGE FROM THE PRESIDENT

By the time you receive this issue of the Newsletter, the WCGA Annual Meeting will be history. As I write this, it's still a full month before that date. I have high hopes that it will go well, and will set a new standard for our meetings. I want to thank all of you that helped organize the event and all of you that made presentations or participated in the exchange. Special thanks are due the Young's, who graciously hosted the Saturday dinner at Allen Creek Farm.

In looking at the local orchards participating in this year's event, I think its interesting how different they are, despite sharing a geographic proximity and general climate. Every place seems to have its own special challenges, advantages, unique history, and operating principles. It's difficult to make comparisons sometimes. Making good orchard management decisions can involve a complex mix of factors, and practices are not universally applicable. A formula for success in chestnut orcharding is a pretty elusive thing, especially with such a short history in the Western states. In looking at the wider grower community, it's obvious that some of us have made some mistakes and could stand some re-thinking of strategies and bettering of skills. One of the purposes of the WCGA is to expand our common knowledge base, and solve problems through sharing. Most anyone should be able to gain something.

All things considered, the West is blessed with some distinct advantages. Other regions have problems unknown to many of us, that make the prospect of success more difficult. In the past weeks, I have come across reports where growers are facing new challenges. In Northern Italy, gall wasps have been discovered, having been inadvertently imported from another part of the world. That same exotic pest is spreading northward in the Eastern US, now reaching the American Chestnut Foundation's Meadowview Farm in Virginia. In Michigan, winter cold has apparently taken a considerable toll on trees planted in the past few years at certain locations. This comes on the heels of last season, where widespread spring frosts severely reduced their potential crop. Most of these places also contend with weevils and Chestnut Blight as facts of life.

EDITOR'S NOTES

At the time of this writing we sit here looking at the trees as nuts are beginning to form, wondering what each will bear. It's been a mild spring and we're thankful for no winter freeze problems as experienced by others in the country. We wonder how growers across the country are dealing with the problems they encounter -- gall wasp, shot hole borer, chestnut weevils, freeze conditions, irrigation problems, labor problems. If you're willing to share your problems please let us know so that we may all learn.

Our articles in this issue should benefit each of us. Jennifer Wilkinson, Editor of the Australian Nutgrower, has once again been most gracious in allowing us to reprint articles appearing in that publication. Two articles on harvesting equipment are of particular interest. In addition, Jeff Olsen has provided us with an article that reminds us of the importance of leaf analysis. The basis for nutrient supplementation has not been established and this is a way of helping all of us to come closer to what we should be doing.

Anyone who missed the annual meeting missed a great opportunity to learn from others who presented and/or attended.

WESTERN CHESTNUT GROWERS ASSN., INC.

BOARD OF DIRECTORS

- PRESIDENT Chris Foster (503) 621-3564 Email: foster@europa.com
- VICE PRESIDENT Harvey Correia
- SECRETARY/TREASURER Ray Young (360) 887-3669
- DIRECTOR Lucienne Grunder
- DIRECTOR Peggy Paul
- DIRECTOR Bob Schilpzand
- DIRECTOR Lee Williams

COMMITTEES

- Editor Carolyn Young
- Phone: (360) 887-4520 FAX: (360) 887-3669
- email: Carolyn@ChestnutsOnLine.com

NOTICE

The Western Chestnut is published quarterly by the Western Chestnut Growers Assn., Inc. at PO Box 841, Ridgefield, WA 98642.

Copyright 2003. Original articles may be reprinted with written permission of the author and this publication.

Single membership is \$25 per year per person -- household membership is \$35. Members receive The Western Chestnut quarterly. For foreign delivery contact the Editor for pricing. Back issues may be obtained by members. Membership applications may be obtained from the Secretary-Treasurer.

POSTMASTER

Send Address changes to WCGA, c/o PO Box 841, Ridgefield, WA 98642.

ADVERTISING RATES

- Full page, camera ready (w/1 photo) .. \$20.00
- Half page, camera ready (w/1 photo) ... 15.00
- Quarter page 10.00
- Business card (4 issues) 15.00

One classified ad per member per year is free (max 6 lines, \$2.50 ea add'l 6 lines). Ad space may be reserved with full payment but must meet established deadlines. If ad is cancelled, money may be refunded if space is resold. Make checks payable to Western Chestnut Growers Assn., Inc.

All ads and other copy preferred in PC format on disk or email to Carolyn@ChestnutsOnLine.com. Ads must adhere to published ad sizes for space purchased. Call for specifics. Otherwise for best results, submit original photographs. Layout of ads will not be done until payment is received. **Send materials to P.O. Box 841, Ridgefield, WA 98642, or Fedex/Express Mail to 29112 NW 41st Ave., Ridgefield, WA 98642.** Call for further info.

PUBLICATION AND DEADLINES

- Fall issue deadline 9/10 mailed 10/1
- Winter issue deadline 12/10 mailed 1/1
- Spring issue deadline 3/10 mailed 4/1
- Summer issue deadline 6/10 mailed 7/1

EDITORIAL OPINION

The views, articles and advertising appearing in The Western Chestnut Quarterly do not necessarily reflect the attitude nor policy of the Western Chestnut Growers Assn., its members, officers, Board of Directors or Editor. The Western Chestnut Growers Assn. Inc., and this publication are not responsible for errors and/or misrepresentations in advertising. The Editor reserves the right to reject or edit all material submitted for publication.

Harvesting Chestnuts

by Jennifer Wilkinson

Reprinted with permission from *The Australian Nutgrower*, Mar-May 2003

Chestnuts are marketed fresh and unlike other nuts, they do not have the protection of a woody shell. The prickly chestnut burr is about tennis ball size at maturity and contains two or three plump nuts. Each nut is protected within a leathery skin which looks beautiful and satiny when released from the burr. However it is easily damaged and so is the nut within. The visual quality of chestnuts is extremely important in the marketplace, especially in the Japanese marketplace. It is therefore crucial that chestnuts retain an unmarked appearance.

nuts and likewise a modified vacuum system. Around 95% of chestnut growers in Australia harvest their nuts solely by hand pick-up. However, reliable labour is not easy to obtain and it is relatively costly. Graham Ahrens, a chestnut grower near Beechworth in Victoria, says that he costs labour at around 25% of the crop value. He said tree shaking is not an option because it brings down too many immature nuts. However, in some seasons, Graham does use a length of PVC pipe to beat the branches to bring down mature nuts. Sweepers are not an option either because

onto the conveyor, but he has found that these machines are designed for level ground and the surface of the Pianegonda orchard is uneven. John said that when he tried this equipment, about 20-30% of the nuts were left on the ground and as well as inefficient, this is bad from a quality point of view because the nuts may be picked up next time. The whole Pianegonda orchard is harvested around a dozen times each season.

The machine John uses today is a home-manufactured vacuum harvester which has vacuum hoses like the Tonutti, but there the similarity ends. John has tried

many different suction heads and nozzles but finds the straight nozzle on 30 metre long hoses the best. The machine is a PTO machine pulled by tractor. It is parked between the tree rows and the hoses are taken either side of the tractor to harvest the nuts under the canopies. The nuts both in and out of the burr, and the trash is sucked up the hoses and onto a bar conveyor. Small trash and nuts out of the burr fall through and onto a conveyor to the bin behind and only the nuts in the burrs proceed through the deburrer. This system is different to other vacuum harvesters but it minimises nut damage. On John's har-



Most new chestnut varieties fall free of the burr but in some varieties and in some seasons the burr falls down intact and it has to be broken open to release the nuts. This can be a prickly operation and requires tough gloves. The sooner chestnuts are picked up off the ground and chilled in cool-storage, the better the quality.

Various mechanical harvesters have been tried but there is not one particular harvester that is universal throughout the industry because most regular systems cause a degree of nut blemish. Of the mechanical harvesters tried, a brush pick-up machine is reported to be very gentle on

of nut damage.

Chestnut Harvest – Example 1: John Pianegonda, Bright, Victoria

In the Ovens valley near Bright in Victoria, the Pianegonda orchard comprises some 3,000 chestnut trees of varying ages and varieties. Some fall free of the burr and some don't. Most grow on level terrain but some are planted on a fairly steep hillside.

For many years John Pianegonda has worked on designing a chestnut harvester that does not cause nut blemish. He has tried sweepers, brush harvesters and those with rotating rubber flaps that flick the nuts

vester, the deburrer is a rotating drum which gently rolls the nuts against a curved surface and the nuts pop out and travel to the bin while the burrs are deposited in traffic lane of the orchard. About 15% of the trash finds its way to the bin and is separated out via drum and air legs back at the shed.

John believes that on the Tonutti harvester, most chestnut damage occurs when the nuts are blown into and out of the deburrer. He is hoping one day the perfect machine will be found but until then he is happy with his home-manufactured machine. He said he has too many trees for hand pick-up.



Hong Choi, right, listens as members offer suggestions for improving the newly acquired orchard.



Members examine shothole borer damage to 4-year old tree at Allen Creek Farm.



Forty members enjoyed a dinner of chicken and ribs.

Annual Meeting, cont'd from p. 1

trol were humidity and temperature. He said that the chestnut loses moisture easily because the shell has nothing to stop the passage of moisture.

Laura Barton, of the Food Innovation Center in Portland, talked about marketing and gave numerous tips for growers to consider. She urged growers to consider applying for grants to develop value added products.

Following presentations the members visited the newly-acquired orchard of Hong Choi, Amboy, WA. Chris Foster gave some background on the orchard. It was planted about 1992. He indicated the struggle in trying to determine which were seedling trees, which were grafted, and which were pollenizers. It was evident that all the trees suffered from inadequate pruning. The canopy was closed in and there was a lack of sunlight, causing lower branches to die.

As he progressed through the orchard, Foster pointed out branches that had broken off due to included bark or too steep angles. He pointed out that the trees on the western side of the orchard were doing better because of more adequate sunlight.

There was discussion about what Mr. Choi could do to recapture the vitality of the orchard. Steve Jones indicated that the previous owner had reported a 10,000 lb. harvest in one year. It was estimated that the 2002 harvest was approximately 300 lbs. The trees had a lot of flowers on them if they had sunlight, but no nuts were visible yet.

Nothing was decided for a plan of action, but Ken Hunt suggested later that perhaps leaving all the trees in the outermost row and removing all the trees in the second row so that the first row would now have full sunlight, and the third row would have sun on at least one side. He said that following year he would then make further decisions based on the appearance of the affected rows.

The second orchard tour was to Allen Creek Farm, owned by Ray and Carolyn Young, in Ridgefield, WA. The orchard was planted in 1999 on 10 of the 20 acres there. The unplanted areas did not have soil conditions conducive to growing chestnuts. The Young's pointed out the shothole borer damage that first appeared this Spring in spite of multiple borer traps placed around the perimeter of the orchard.

Wind is a major factor at the orchard and it was suggested that a windbreak would be helpful. Many trees snapped off in the wind last year as the branches became heavier with maturing nuts. All the trees that broke have resprouted and will be retained. Pruning will be done on them next Winter.

Rows are sprayed with Roundup to eliminate weeds around the base of the trees, and decrease the loss of nutrients. Alleys are mowed with grass being thrown into the rows and lawn clippings are also used to provide mulch and nutrients. The 2002 production was about 2000 lbs on 10 acres.

The Young's bought an orchard sweeper last year which greatly reduced the amount of effort in hand harvesting. They have recently purchased a mechanical harvester which will be used for the first time this year.

Ray built a sorter and polisher for minimal cost that have proven quite useful. Nuts are refrigerated in an ocean-going refrigerated container.

They have developed a few value-added products and in addition to their fresh nuts sold almost everything on their

website in 2002, www.ChestnutsOnLine.com. Their goal is to increase retail sales with the use of the website and sell wholesale as needed.

Following the tour of the orchard members enjoyed a tasty dinner of barbecued ribs and chicken, coordinated by Sandy Bole. Following dinner the business meeting was conducted. Minutes from the meeting are to be found on p.11.

Sunday began at Ladd Hill Orchards, Sherwood, Oregon, a 25 acre orchard owned by Ben and Sandy Bole. The Boles are certified by The Food Alliance and use organic farming practices, though they do not plan to be certified organic.

The Bole's have a complete processing line that replicates the Tanimoto line in California. It should support all their production for many years without being overburdened.

Because they also sell dried chestnuts they have a shelling machine that removes the shell and pellicle from dried nuts. Nuts may be run through the line multiple times before the shell and pellicle are removed. Ben said he felt there might be less breakage of the nuts were not dried to such a low moisture content.

They originally irrigated with 2000 buckets and several years ago installed a micro-sprinkler irrigation system.

There has been deer damage in the orchard in spite of the presence of deer fencing around the orchard. Buck rub was apparent on a number of trees. Another problem that has been seen is gopher damage. A tree pulled up the morning of the tour showed a total lack of roots due to a gopher.

Marketing efforts have focused on retail customers with advertising being done in *Fine Cooking* magazine. They also sell to restaurants and high-end markets. Nuts are also sold from their website at www.laddhillchestnuts.com.

Following lunch at McMenamin's Cornelius Pass Roadhouse, members went on to the orchard of Chris Foster nearby. Foster is a certified organic grower and has very careful control of everything that goes into his orchard.

This orchard of over four acres has more cultivars than any other orchard in the northwest. All are being evaluated by Foster. He seems to favor Bouche de Betizac and says he expects to get 1000 lbs this year.

Sitting on the side of a hill, the orchard is protected from wind on three sides by firs and other old established trees in a beautiful setting.

As an organic orchard, Foster is faced with many challenges not seen by the non-organic grower. His fertilizing program consists of a non-animal waste mulch which he makes himself and the use of grass clippings. No tractors go through the orchard so that roots are not impacted by compressed soils. Because of the low output of his well, Foster pumps into a holding area and then waters by drip over an extended time.

Replacement trees are grown from seed in his small nursery area and grafted at the appropriate time. Scion wood is obtained from other growers.

Marketing is done at the Portland Farmers' Market and to other established customers.

Thanks to the orchard owners, Hong Choi, Ray and Carolyn Young, Ben and Sandy Bole and Chris Foster, the speakers, Ken Hunt, Mike Gold, Greg Miller, Laura Barton and Adel Kader, food coordinator, Sandy Bole, and the support of Harvey Correia in obtaining speakers, this had to be one of the best annual meetings ever held.



Ben Bole explains his custom designed processing line at Ladd Hill Orchards. Nuts are fed into a hopper and proceed to an air leg where the hulls are separated. Nuts proceed to the sorter at right.



Chris Foster talks about the many cultivars that are grown in his organically managed orchard near Portland. Many years have been spent developing the orchard in an attempt to evaluate available cultivars.

MSU Chestnut Exhibit Showcases State, National Partnerships

EAST LANSING, Mich. – Guests to the sixth annual Food and Agricultural Science Exhibition and Reception March 4 on Capitol Hill in Washington, D.C., were treated to the delicious aroma and flavor of chestnut brownies courtesy of Michigan State University (MSU) researchers.



The chestnut exhibit featured samples of chestnut products.

The Michigan State University exhibit, “From Table to Tree: Reversing the Production Agriculture Paradigm by Developing Profitable Markets for Chestnuts,” highlighted research efforts by Michigan Agricultural Experiment Station (MAES) and Project GREEN (Generating Research and Extension to meet Environmental and Economic Needs) scientists, MSU Extension specialists and orchard growers in the development of chestnuts as an alternative high-return crop.

In addition to chestnut brownies, the MSU exhibit also featured samples of flours made from both Chinese and Colossal chestnut varieties, three types of crumbles (chopped nuts) used for various food applications and samples of frozen, vacuum-packed chestnuts.

Approximately 250 people attended the exhibition and reception, including U.S. representatives and senators, legislative aides who specialize in agricultural issues, and experiment station directors and deans from agricultural colleges, or their representatives.

“The exhibit provided national exposure for the MSU chestnut project,” says Janice Harte, visiting assistant professor in the MSU Department of Food Science and Human Nutrition. “The philosophy of developing a market for a value-added product prior to having excess quantities will provide more of a chance for keeping the market profitable for growers.”

“The exhibit highlighted what we have been able to accomplish here at MSU with the growers,” she continues. “Michigan’s chestnut industry is in its beginning stages, but there has been so much accomplished because of the cooperative team approach from so many MSU departments and fields of expertise.”

The MSU chestnut project represents faculty members and technicians from five departments (Food Science and Human Nutrition, Agricultural Engineering,

Horticulture, Packaging and Plant Pathology) and an MSU Extension value-added specialist.

“The chestnut display was a true example of partnerships at work between MAES, industry, the Michigan Department of Agriculture and the USDA,” says Bridget Behe, MSU professor of horticulture. “It showed how industry priorities, coupled with Project GREEN funds, were used to leverage additional dollars at the state and national levels.”

“The chestnut project was a great example to share with the legislative aides,” Behe adds. “Though chestnuts are not among the top 10 economically important Michigan crops, this project does show what a diverse, multidisciplinary team can accomplish with adequate funding from multiple sources.”

Behe notes that exposure at the showcase may help the project leverage additional funding and help to illustrate that the grant funding system can work well to support useful research projects.

“The best part of the chestnut example is that it has measurable outcomes from consumer and market research, and the chestnut industry has been able to begin selling a novel product at a substantial profit,” she explains.

The Food and Agricultural Science Exhibition and Reception, a hands-on advocacy event aimed at increasing congressional awareness of the latest in research and education, is organized by the National Association of State Universities and Land-Grant Colleges (NASULGC).

To be selected to exhibit at the event, member institutions must submit descriptive applications of their projects to an ad hoc committee for evaluation. The committee looks for institutional, multistate and/

partments



Dennis Fulbright greets U.S. Senator Nick Smith (center) and state representative Gene DeRosset (right).

or multidisciplinary exhibits showcasing the breadth of work being done as a direct result of the investment of federal dollars into research and educational programs. Approximately 50 exhibits, about one representative from each state, were on display at this year’s event.

The theme of this year’s exhibition was “The Land-Grant System: Science and Education Working for and Serving the Needs of America.”

Chestnut Congress Cancelled Due to SARS

(Editor's Note: This correspondence was recently received.)

The Organizing Committee (OC) and partnering associations have the duty to inform all the participants of the 3rd International Chestnut Congress (October 20-23, 2003) that the date of this event has been postponed due to Severe Acute Respiratory Syndrome (SARS) outbreak. In fact, even though the initial outbreaks have slowed, there are gaps in knowledge and, in the presence of these gaps about this new disease, we think that it would be wise to postpone the congress, since the organizers aim to gather expertise views from all chestnut areas including Asia. On the other hand, quite a few registrants have expressed concerns about SARS. In this sense, the OC decided to cancel the registrations for next October and to announce the new date for the congress: October 20-23, 2004.

Please, share this information with other colleagues who are planning to attend the congress.

Your registration and abstract are already valid for October 2004, unless you say otherwise.

Sincerely,
Carlos G. Abreu
(Convener)

“Because of Project GREEN, MSU has been able to take a proactive leadership role, guiding the state’s chestnut growers as they work to grow and market this novel product,” says Dennis Fulbright, MSU professor of plant pathology.

Project GREEN is the state’s plant agriculture initiative at Michigan State University. It is a cooperative effort between plant-based commodities and businesses together with the MAES, MSU Extension and the Michigan Department of Agriculture to advance Michigan’s economy through its plant-based agriculture. Its mission is to develop research and educational programs in response to industry needs, ensure and improve food safety, and protect and preserve the quality of the environment.

To learn more about Michigan’s plant agriculture initiative at Michigan State University, visit www.green.msu.edu.

The Value of Using Leaf Tissue Analysis in Chestnuts

*By Jeff Olsen, OSU Extension Horticulturist
Email: Jeff.Olsen@orst.edu*

Leaf tissue analysis is a useful tool in orchard nutrient management. It can be used to assess the nutritional status of the orchard, so that needed adjustments can be made in the fertilizer program. In some cases leaf tissue analysis can be a diagnostic tool employed to help solve problems in sections of an orchard, or the whole orchard itself.

Trees that are growing poorly, or having sub par yields may be undernourished. Nitrogen deficiency can take many forms including: shorted shoot growth, poor yields, and yellowish coloration in the leaves. A potassium deficiency can also reduce yields. Boron plays a key role in nut set, and a shortage can cause yield loss. Another micronutrient, zinc, shows its deficiency in small yellow leaves that are often in a clump, or a rosette of small leaves with short internodes. All of these problems can be corrected with the application of recommended amounts of the right fertilizer. A leaf tissue analysis helps quantify any mineral deficiencies, and the interpretation suggests the correct amount of fertilizer to apply for that specific orchard.

Leaf tissue analysis is taken in the month of August in the western Oregon and Washington. Californians may take theirs in the last half of July. You will need at least fifty normal sized leaves for a sample. You can select an appropriate number of sample trees for your orchard, mark them permanently and take leaves from them year after year, or you can cross the orchard and take random samples of leaves. Select your sample leaves from the mid shoot of current season’s growth.

Your local Extension office has leaf sample kits, and a list of private laboratories that process leaf tissue analysis. If you send your samples to OSU’s Central Analytical Laboratory I will be sent an electronic copy of your results. If you use a private lab, please send me a copy of your results. Your Western Chestnut Growers’ Association has been urging growers to take leaf tissue analysis so that a large database of chestnut samples can be created. This will help in refining the nutrient management recommendations for chestnut orchards in the United States.

IT'S LEAF ANALYSIS TIME

**California -- last 2 weeks of July
Oregon, Washington -- first part of August**

SEND YOUR RESULTS TO

Jeff Olsen

**OSU Cooperative Extension
2050 Lafayette Ave.
McMinnville, OR 97128**

Chestnut Grower Develops the Multi-Nut Harvester

by Dean Turnbull, Stanley, Victoria

As printed in the Australian Nutgrower, NEG CPL@bigpond.com.au

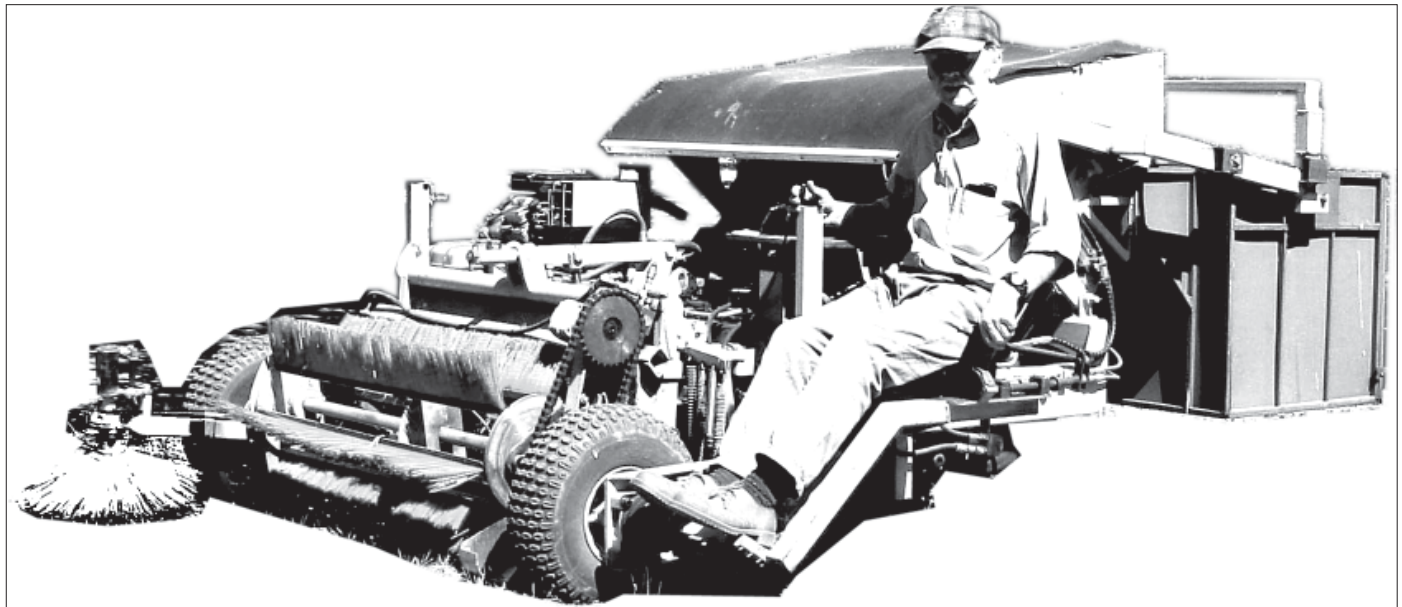
Reprinted with permission of the author and the Australian Nutgrower

George Turnbull and family are chestnut growers at Stanley in north-east Victoria. The chestnut trees total some mature 360 trees, however tragically struck on the 26th November last year when a tornado came through and ripped many trees out of the ground and broke many into pieces. George is still

power motor, compact enough to fit comfortably beneath trees, harvesting close to the trunk; and powerful enough to work on hilly terrain. Complementing the Harvester is a mobile de-burring unit which removes the spiky husks and separates out leaves, leaving only the nuts to be returned for grading.

cally-driven brushes, and possibly the most important component of the system -- a sturdy, yet full-floating articulated "shoe" system that gently scoops nuts up while maintaining constant contact with the ground contours.

The brushes gather the nuts in and whisk them onto the shoes. Once on the



The Turnbull Mark Four Multi-Nut Harvester. Note the brush pickup. (Photo: Turnbull.)

cleaning up the mess and won't have much to harvest this year. This is unfortunate because he has been developing a chestnut harvester for many years and has now perfected the machine. He says it is a self-propelled low profile machine that fits easily under mature chestnut trees and the nuts are not damaged in any way during pickup or de-burring. George has called the harvester the Multi-Nut Harvester and it was designed and created in a shed by George at his farm. He has a passion for invention.

The Multi-Nut Harvester is a three-wheel drive vehicle with a twenty horse-

Although the harvester was developed to harvest chestnuts, it has also been successfully trialed on walnuts and is designed to harvest any nut which falls to the ground.

The most important component of the system is a full-floating articulated "shoe"

The Mark Four Multi-Nut Harvester has come a long way from the first model, produced in 1997, which was a pull-along grass-sweeper cobbled together from metal scraps. From there, the harvester quickly evolved, incorporating mechani-

stainless steel polished shoes they are rotated onto a fast-traveling elevator and deposited in a rear storage bin. Importantly, the nuts only travel 1-2 centimeters over the ground completely eliminating scuffing. Once the harvester fills the rear storage bin, that bin is exchanged for an empty one and the harvester continues its work while the de-burrer processes the load.

Initially the brush and shoe features were attached to an industrial ride-on mower, but this made harvesting below trees and general maneuvering difficult. The need for a fully self-propelled hydraulic unit was obvious, but beyond George's expertise. In 1998 Central Victo-

rian Hydraulics P/L of Bendigo became involved, helping to develop the Mark Three model. The mechanical sweeper was completely stripped down, only retaining the brush and shoe system and after much collaboration, a hydraulic unit was completed in time for the 1998 season allowing a substantial trial.

units require only a single operator and run simultaneously. With its rapid processing, the De-Burrer could keep pace with more than one harvester.

A front mounted hydraulic bucket that can be mounted on the unit has been completed for general orchard clean up with a rear mounted fertiliser spreader, out front

harvest and speed up harvesting operations.

George has tested the units in all weather conditions without problem, although without a polishing unit before the grading process, harvesting in very wet weather will still present problems with muddy nuts.

The harvester can maneuver easily around the base of the tree to harvest all nuts



The Turnbull Multi-Nut harvester unloading into the mobile De-Burrer. (Photo: George Turnbull.)

As any nut grower knows, simply picking up the nuts is not the end of the job, as nuts need to be separated from the litter of leaves and husks, to be cleaned ready for grading. A speedy, efficient harvesting system needs to be supported by rapid processing: the need for the De-Burrer was evident. George decided to build a mobile unit, so the harvester could minimize travel time with a full storage bin: the mobile De-Burrer is towed into the orchard next to cropping trees, and the harvester makes short runs from the tree to the De-Burrer with up to 100 kilos of nuts at a time. Both

mower and boom sprayer units all to come shortly.

While nut prices remain low, farmers are feeling the cost of harvesting more than ever. However, with a harvester which can pick 80 kilos of nuts in three minutes and a De-Burrer which can process the same quantity producing a clean, undamaged nut product, harvesting costs drop dramatically.

“Competition for pickers is always stiff around harvest time, someone’s always ill, or can only work half the season . . .” George notes. Pickers can be unreliable, hard to come by and expensive: the single operator units will minimize the workforce required for the

without any additional assistance required. Growers do need to keep a tidy orchard, though and the harvester needs short grass to work well.

Likewise, it picks up well on gently undulating ground but not over bog or ruts. Importantly, Sydney Market Wholesalers report no difference between hand-picked nuts and those harvested using the machine.

After a further season of testing and modifying both units in 2001, both the Mark Four harvester and the mobile De-Burrer ran trouble-free throughout the 2002 season. Both units have been fully tested and George is now ready to accept orders for the 2004 season.



WCGA CLOTHING ORDER

Here's another opportunity to promote the Association. The following clothing items are available with the WCGA logo for association members.

Please complete the order form and mail with your check payable to WCGA, or VISA/Mastercard number to Sandy Bole, Ladd Hill Orchards, 15500 SW Roberts Rd., Sherwood, OR 97140 or Fax your order to 503-625-1937.

Item No.	Description	Sizes available	Colors available	Unit price
K420	Pique Knit Short-sleeve Polo Shirt	Unisex sizes XS-4XL	White, Ivory, Oxford, Stone, Yellow Faded Blue, Red, Faded Olive, Burgundy Forest Green	\$34.00
K420P	Pique Knit Short-sleeve Polo Shirt w/Pocket	Unisex sizes XS-4XL	White, Stone, Faded Blue	\$38.00
L420	Ladies Pique Knit Short-sleeve Polo Shirt	Sizes S-XL	White, Stone, Yellow, Faded Blue, Red	\$34.00
PC61	Men's/Women's Cotton Knit T-Shirt	Sizes S-2XL	White, Ash, Yellow, Natural, Stonewashed Blue, Stonewashed Green, Violet, Colonial Blue, Red, Spruce	\$16.00
SP10	Long-sleeve Denim Shirt	Sizes XS-4XL	Faded Blue	\$31.00
SP11	Short-sleeve Denim	Sizes XS-4XL	Faded Blue	\$31.00
L600	Ladies Long-sleeve Denim Shirt	Sizes S-XL	Faded Blue	\$34.00
83062	Crewneck Sweatshirt 80/20 Cotton/Poly	Adult sizes S-2XL	Ash, Heather, Bluegrass (slate blue), Wine	\$46.00
CP82	Brushed Twill Baseball Cap adj. closure		Khaki, White, Red, Royal	\$15.00
AP34	Butchers Apron 34" long		White, Vanilla, Butter, Sage, Hunter, Red, Royal	\$19.00

Note: All items are 100% cotton, unless otherwise noted.

ORDER NOW! Clip the order form below.

**WESTERN CHESTNUT GROWERS' ASSN.
CLOTHING ORDER FORM**

Name: _____
 Address: _____
 City: _____ State: _____ Zip: _____
 Telephone: _____ Fax: _____ Email: _____

Item #	Qty	Description	Size	Color	Unit Price	Total Price
Shipping					\$	5.00
Total Order					\$	_____

Payment Method: Check VISA Mastercard
 Credit Card No: _____ Expiration Date: (Mo/Yr) _____

Signature: _____

MAIL YOUR ORDER WITH CHECK ENCLOSED PAYABLE TO WCGA TO SANDY BOLE, LADD HILL ORCHARDS, 15500 SW ROBERTS RD., SHERWOOD, OR 97140, OR FAX IT WITH CREDIT CARD INFO TO 503-625-1937.

1/03-10/03

Western Chestnut Growers' Assn.

Minutes of the Annual Meeting
Ridgefield, WA
July 28, 2003

- Call to order:** The meeting was called to order at 6:00 p.m. by President Chris Foster.
- Minutes:** The minutes of the previous meeting were published in the April, 2003, edition of the association's newsletter.
- Treasurer's Report:** The Treasurer circulated an income statement and balance sheet for the period January 1, 2002 through December, 2002 and estimated statements for the period January 1, 2003 through June 25, 2003.
- President's Report:** Chris talked about the press releases that the board of directors had authorized last fall and the benefits to all members from the publicity. He indicated that he had had many phone calls resulting from the release. Chris also cited the implementation of the Growers' Directory on the association website that makes it possible for anyone accessing the site to contact any of the listed growers. Anyone who has ideas for improvement of the directory were asked to contact him. Carolyn Young, webmaster, reminded members that it is the board of directors that authorizes all content of the website.
- Old Business:** There was none.
- New Business:**
- Natl Chestnut Week:** Carolyn Young proposed that WCGA proclaim a National Chestnut Week to bring attention to chestnuts and aid growers in marketing their crops. Carolyn moved and Harvey Correia seconded a motion to establish National Chestnut Week during the second full week of October. Motion passed unanimously.
- Size standards:** Michael Reid suggested that size standards be adopted for all WCGA members. There was lengthy discussion, but no decision was made. Chris said that whoever would like to chair a committee for standards should call him.
- Value added products:** Lucienne Grunder asked what grants were out there for the development of value-added chestnut products.
- Election of officers:** Ben Bole, chairman of the nominating committee, announced the slate of offers as following:
- | | |
|-----------------|------------------|
| President: | Chris Foster |
| Vice President: | Harvey Correia |
| Sec/Treas: | Ray Young |
| Director: | Bob Schilpzand |
| Director: | Lee Williams |
| Director: | Lucienne Grunder |
| Director: | Vacant |
- Michael Reid moved that the slate be accepted by unanimous consent. Motion was seconded. Motion passed.
- Adjournment:** The meeting was adjourned at 6:25 p.m.

Make sure to visit the WCGA website at:

<http://www.wcga.net>



2003 Membership Renewal / Application
Western Chestnut Growers Assn., Inc.

\$25.00 individual member
\$35.00 household membership
\$26.50 Canadian individual member
Total amount enclosed
\$ _____

Date

(Please print)

Member
First Last

Farm/Business/Organization Name

Address

City State/Province Zip/Postal Code

Phone () Fax ()

Email: Website URL:

The following information is **voluntary** on your part, but will help your association better understand the growth and status of the chestnut industry. Check those boxes that apply:

- Commercial Grower Prospective Commercial Grower Researcher/Educator Hobbyist
- Nursery Consultant Vendor
- Acreage in chestnuts:
 - < 1 Acre 1-5 Acres 6-20 Acres 21-50 Acres 51 + Acres
- Chestnuts first planted:
 - Pre-1990 1990-1993 1994-1997 1998-2001 Not yet planted
- Percentage of seedlings:
- Sell grafted trees Sell seedlings Sell scion wood Sell seed nuts
 - Sell nuts retail Sell chestnuts whsle Sell mail order Sell on-line
 - Sell at farmers' mrkts Sell at farm stand

Cultivars grown:

2002 Production: lbs.

Photocopy this form and send with your check for \$25.00 (individual member), \$35.00 (household membership) or \$26.50 (Canadian individual membership) made payable to Western Chestnut Growers Assn., Inc. to Ray Young, Secy/Treas, PO Box 841, Ridgefield, WA 98642.

We need writers. It may come as a shock to you to know that everything you read in this newsletter doesn't just magically appear on your Editor's desk.

If you have a passion to write, or even if you don't but have information that could be of use to other growers put pen to paper and be a contributor.

Don't forget that members get a free classified ad once a year. Take advantage of a good opportunity to make others aware of your products or services.