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Going Nuts in Italy

Growing edible chestnuts as a commercial agricultural product is beginning in several fruit growing areas of the United States, including Michigan. Initiated by grower hobbyist/enthusiasts, these producers intuitively understood the potential for a profitable and sustainable crop well suited to small and mid-sized farms. These growers are now joined by veteran growers looking for diversification and crops more profitable than tree fruits.

Dan Guyer and Kirk Dolan, faculty in the Department of Agricultural Engineering, are members of a multi-region, multi-disciplinary team looking to assist the emerging chestnut industry and to help set a course of sustainability and profitability. The team is looking to address gemplasm, production, harvest and handling, storage, processing and product development, packaging, and marketing.

As part of this effort, Guyer and Dolan joined two colleagues from Botany and Plant Pathology and two MI growers on a trip in late February to the chestnut regions of Italy. The specific mission of the trip was to interact with some progressive chestnut processors and to meet with a manufacturer specializing in chestnut processing equipment. The processors shared their thoughts on the past, present, and future trends for chestnut products and allowed the group to tour their facilities. As an example to scale, the processing facilities visited had the capacity to process the current entire Michigan chestnut production in the time it would take to have a short coffee break

Seeing and learning the concepts and methodologies utilized in the industry was valuable. Of particular interest were the processes used to maintain the quality of fresh chestnuts and also the processes used to remove the shell. Technologies observed ranged from a street vendor cutting individual chestnuts with a knife on a corner in Rome to the use of a laser to slit the shell.

An Italian manufacturer of food processing equipment specializing in chestnut lines spent a day hosting our group in and around Asti. This included a morning of explaining our project situation and goals as well as learning the specifics on the components they manufacture. We were delighted to hear from the company that they were open and willing to work with us in a capacity similar to being a research cooperator. The afternoon with this company was spent traveling to the base of the Alps to visit a processing operation and seeing some of the equipment in the field.

A brief and abbreviated summary of the trip includes the group arriving into Milan; train to Rome; van to Viterbo and around to processing facilities and 200+ year-old chestnut groves. This was followed by a train back to Rome; a whirlwind 6 hour "race through Rome" to see the sights; a sleeper train to Asti; a day with the equipment manufacturer capped off with an evening of celebrating the successes of the trip

with a toast of Asti Spumante. Then a train to Milan; and a delayed return trip due to the Milan airport closing for a blizzard. A truly memorable, enriching, and rewarding trip for all.

The trip could be summarized as exceeding expectations and being very valuable in helping influence directions of the project for the future. As we look forward, the engineering facet of the effort will i) evaluate commercially available equipment which can be directly implemented, ii) evaluate concepts which need modification or scaling, and iii) possibly develop alternative unit operations which can address the post harvest handling and processing needs and scale of the emerging chestnut industry in this region. The teaming of biologists, engineers, food chemists, marketing specialists, and economists will provide a strategy where the full power of the land grant university system is brought to bear on questions surrounding this emerging crop.

What products are made from chestnuts? Of course, they are delicious as "chestnuts roasting on an open fire." Additional products are candied "glace" and chocolate covered nuts, dried and rehydrated nuts, chestnut flour, food or dessert ingredients (pieces or crumbles) or garnishes, and they make an awesome soup! They are noted as containing "good fats" and thus are of nutritional value. Be sure and try one when you get a chance!