Introducing the Hybrid Chestnut for New York and the North East

Z’s Nutty Ridge LLC is propagating hybrid hardy chestnut trees for the homeowner, reseller, and orchardists. The chestnut trees we grow are identical to the cultivar in every way as we clone them through tissue culture. We believe that we are the first commercial nut tree tissue culture nursery for New York and the North East. We produce chestnut cultivars that are known and accepted for high quality nut production in our region.

Chestnut Background Information
Chestnuts have been grown throughout Europe, China, Japan and United States as a food staple since time immemorial. The Native American chestnut trees are susceptible to the chestnut blight and are all but eradicated. The foreign Chinese chestnut trees brought blight (Cryphonectria parasitica) to North America that the Chinese trees are resistant too. The native trees are now being crossed and back crossed to allow the native tree form to have blight resistance by The American Chestnut Foundation (TACF) and other researchers. Through a technology transfer from State University of New York (SUNY) Environmental Science and Forestry (ESF) to Z’s Nutty Ridge LLC we are now tissue culturing chestnuts. When you buy a chestnut tree from us you are helping reestablish the American chestnut tree.

Chestnut trees and their close relatives come in all sizes from bush to “Redwood” timber size. The American chestnut tree is a very large timber type tree with relatively small chestnuts. The European, Japanese and Chinese chestnut trees have a long history of being cultivated for nuts and the named selections are generally a size similar to a standard apple tree with large nuts that can be 10 nuts to the pound. The chestnut industry is growing as the crop is sustainable, soil friendly and well accepted by the consumer. According to a recent newspaper report, a 17 acre chestnut orchard and winery in upstate NY sold out of chestnuts in one day during their chestnut festival selling chestnuts at $3.50 per pound.

A mature well planned and maintained hybrid chestnut orchard should achieve well over 2000 pounds of nuts per acre. The trees will grow wherever in North America there is enough warmth, well drained soil and rain, as the native area is expansive as shown in Figure #1. Chestnuts are now grown from Michigan to Florida. Michigan growers have found the European and Japanese hybrids produce 2 to 5 times the nuts that Chinese chestnuts do and produce nuts at a much earlier age. For example, the tissue cultured Colossal variety we offer is a European and Japanese hybrid, as shown Figure #2b, at only 6 months old is producing flowers already.

Like any fruit, grain or nut crop there are pests and diseases that like it as much as we do. The main issues are: chestnut blight, chestnut weevil and root rot. Another potential pest not seen here in our farm is the Asian chestnut gall wasp. Chestnut trees like any tree are also subject to the normal leaf eating pests and normally they can be controlled if necessary with traps.
Orchard Planning and Management

Current recommendations are to double plant the trees and cull every other one when they become overcrowded. For European and Japanese hybrids the final spacing of 30’ X 30’ (48 trees per acre) should be good and anything less than 20’ X 30’ will be too tight. For an excellent practical overview please see: http://msue.anr.msu.edu/topic/chestnuts/establishing_orchards/planting_and_spacing.

The soil pH must be proper for the tree to grow and thrive. Soil pH should be 5.5 to 6.5 much lower or much higher the trees won’t do well. If the tree is chlorotic(yellow) it is a good sign that the soil is near neutral (7.0pH) and the pH needs to be adjusted if possible or do not plant in the area. Fertilization will depend on the age of the tree and size of the tree. Leaf analysis is used to verify the condition and needs for macro (N,P, & K) and micro nutrients. Fertilizer recommendations usually include ammonium sulfate to acidify the soil around the tree. Irrigation is needed for newly transplanted trees for good growth and ensure high survival rate. Practical growing information is at the MSU Extension: http://msue.anr.msu.edu/topic/chestnuts/horticultural_care/fertilizing.

We describe the practices for an orchard and the above will apply for the homeowner, hobbyist or any agricultural system. Different systems include: silvopasture, permaculture, agroforestry and woody agriculture. These systems utilize trees as an integral part of a sustainable agricultural practice. We believe this trend will continue to grow and lead both environmentally and economically over annual grain crops.

Chestnut Trees from Z’s Nutty Ridge LLC are now available for ordering

We will have very few cloned Colossal potted trees for 2016’. Cultivars maybe pre ordered for 2017’. Clones are used for commercial orchards as this gives the needed uniformity that consumers expect. Please visit our web site to order trees and more detailed growing information and references.

Welcome to Z’s Nutty Ridge Nursery – New York’s first tissue culture nursery for nut trees.

We select the best nuts on the hardiest trees and cross breed for superior performance disease resistance and nut quality. We will propagate known cultivars of hazelnut and chestnut that meet our criteria and our own selections. We are located in the geographical center of New York State, in Cortland County, known as “Upstate New York”. We are USDA zone 5a at a very windy 1800 ft. elevation.

Find us at: http://znutty.com/
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Introducing Locally Grown Hazelnut

Tasty heart healthy hazelnuts are used in many food products desired by consumers and are chronically in short supply. People are surprised to learn that hazels are a native tree that grows locally in the wild. Yet, most all hazelnuts are sourced from either Oregon or Turkey. This informative sheet reviews why hazelnuts have not been grown locally and why Z’s Nutty Ridge LLC will now usher in this new desired profitable crop after 94 years of hybridizing.

“Hazelnuts are a new crop 94 years in the making”

Why Grow Hazelnuts?

American Hazelnuts (Corylus americana) are native to the whole Eastern to Central United States and Eastern Canada as shown in the map below in Figure #1a. The hardy native hazel bushes harbor a blight known as Eastern Filbert Blight (EFB) caused by the fungus Anisogramma anomala. Native hazels are unaffected by the blight; but, the nuts are tiny, go unnoticed in the wild and are undesired for consumption. European hazelnuts (a.k.a. Filberts) have been selected for production with large tasty nuts for hundreds, even thousands of years. However, the European hazels (Corylus avellana) generally are not as hardy and are often severely distressed or killed by EFB.

Majority of hazels produced in the United States are European hazels grown in the North West and mainly in Oregon where EFB was absent. Hazel orchards in the North West are now slowly being decimated by EFB as the disease has spread throughout the region. Oregon State University (OSU) in conjunction with USDA has been working diligently to develop hybrid hazels to replace the existing trees. OSU now has a few strains of trees that are immune to the one strain of EFB that are currently being planted. To date Rutgers University has identified seven strains of EFB. At Z’s Nutty Ridge LLC the OSU selections to date have not yet proven EFB tolerant and some have died from EFB. Also, catkins on some varieties die during the winter greatly reducing the pollen and yield, illustrating lack of hardiness.

Hybrid hazel trees with jumbo grade sized nuts are successfully grown in central New York as shown on Figure #1b. From a financial standpoint hazelnuts are an ideal specialty crop as they are in continuous short supply and have high profit margins. In shell hazelnuts average $6.00 a pound and shelled raw bulk hazelnuts are currently selling for $14.99 a pound in local grocery stores. The cost per pound of hazelnuts currently limits consumption. The future for increased hazelnut consumption is excellent, as Europeans consume up to eight times what an American consumes. Europeans on average eat 2.0 to 4.4 lbs. of hazelnuts per year and Americans only eat approximately 0.5 lb. per year.

Hazelnuts will provide a very profitable income well above what any annual grain crop can, after the necessary 6 year wait before the trees produce a significant amount of nuts. Assuming only 2000 pounds of nuts (up to 2800 lbs. should be attainable) at direct wholesale pricing of only $2.50 per pound (we currently sell for $3.50 per pound) amounts to...
$5000.00 per acre. In contrast the average corn crop yields 160 bushels per acre in New York at a current price under $4.00 per bushel, is only $640 per acre. Hazels require similar annual input costs as corn and organic sustainability should be readily achievable as the hazel tree is native unlike most annual crops grown.

**Why not previously?**

Hybridization of native blight resistant hazel trees to the European hazel in North America has been documented since 1921 (Weschcke 1953). The Northern Nut Growers Association (NNGA) has been in existence for over 100 years, is a group of hobbyist and professionals that grow and breed nut trees. NNGA and similar associations have assisted with hazelnut improvement for over 94 years. Hazels will start producing nuts in as little as four years and nuts from grafts in two and a half years. However, EFB can take as long as ten years to show up and ultimately injure or kill the tree. Many false starts establishing orchards occurred with hazel hybrids as a result. Breeders have built upon the early work of Mr. Weschcke, with follow on efforts by Mr. Grinnell, Mr. Farris, Mr. Gellatly, Cornell University, Mr. Rutter, Mr. Grimo, Rutgers and Oregon Universities and Z’s Nutty Ridge. Research will yield more EFB resistant strains adding variety similar to apples, giving the consumer more choices. Z’s Nutty Ridge has the hazelnut genetics for a new crop now!

**Why now?**

Z’s Nutty Ridge has planted thousands of hybrid EFB resistant trees that have been planted and replanted for over 23 years. A serious hobby turned professional a couple years ago when they had more nuts than they could give away to family. Hybrid EFB resistant lineage trees from all possible available sources have been planted, including trees that originated from or directly from: Mr. Weschcke, Mr. Grinnell, Mr. Farris, Mr. Gellatly, Cornell University, Mr. Rutter, Mr. Grimo, Rutgers and Oregon Universities, with the best tree selections further hybridized. Majority of the hazel trees planted die of EFB early in the first few years or after the tree has matured around year ten. By planting trees from all available sources, the orchard has exposure to as many strains of EFB as possible. Z’s Nutty Ridge has hybrid tree selections that have proven to be very hardy, with very good nut characteristics and production. Z’s Nutty Ridge with over 23 years of experience is most knowledgeable in growing hazels for New York in USDA zones 4/5.

**Prove to me hazelnut orchards are catching on!**

Hazelnut production is expanding with Ontario Hazelnut Association that formed just a few years ago to promote hazel orchards just north of the New York border. Ferrero the makers of Nutella, a $8.8 billion dollar company, that consumes 25% of the world’s crop, has a massive candy factory, just over the New York border, in Brantford Ontario Canada. There is Upper Midwest Hazelnut Development Initiative (UMHDI) to develop hazelnut cultivars and orchards in Wisconsin, Michigan and surrounding area. The hardy native hybrid trees grow well and as the picture of Figure #1b proves they are ready for production in New York and the North East. Z’s Nutty Ridge is actively expanding its own orchard and is the first commercial hazelnut orchard in New York.

**Hazelnut Trees from Z’s Nutty Ridge LLC are now available for ordering.**

We currently sell seedling trees and are starting to sell layered hazelnuts. Seedling trees are nuts planted from a known good parent that is sprouted and grown one season in our greenhouse. Seedling trees won’t be identical to the parent but will often share similar characteristics. The seedlings are shipped in the summer or are planted out for a second growing season and then sold. Layered selections are identical to the parent tree and are known as a “clone”. Layering has been done for thousands of years on any tree that will produce “suckers” or re-sprout after the tree has been cut down. The suckers or sprouts are encouraged to grow roots and then divided. Clones are used for commercial orchards as this gives the needed uniformity that consumers expect. Please visit our web site to order.

**Welcome to Z’s Nutty Ridge Nursery - New York’s first commercial hazelnut orchard.**

We select the best nuts on the hardiest trees and cross breed for superior performance disease resistance and nut quality. We will propagate known cultivars of hazelnut and chestnut that meet our criteria and our own selections. We are located in the geographical center of New York State, in Cortland County, known as “Upstate New York”. We are USDA zone 5a at a very windy 1800 ft. elevation.

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