



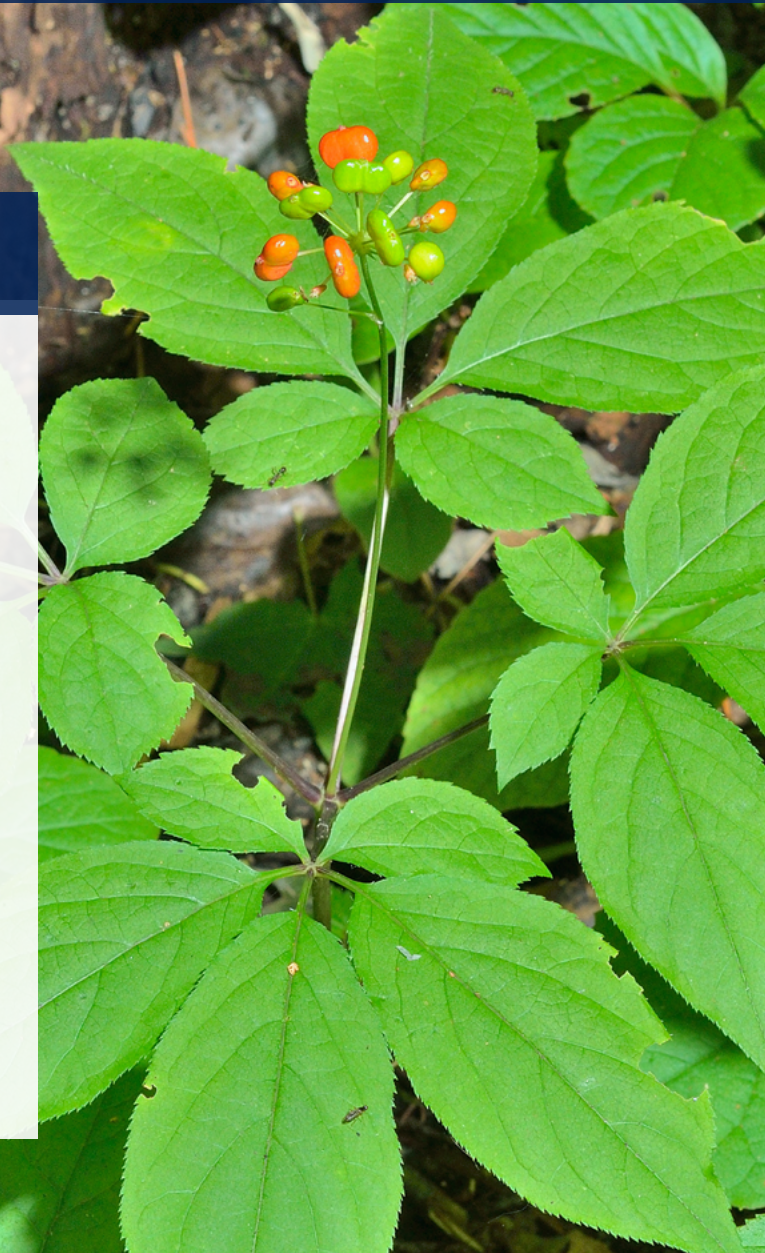
SCHOOL OF AGRICULTURE
MIDDLE TENNESSEE STATE UNIVERSITY

INTERNATIONAL GINSENG INSTITUTE

SPRING 2021 NEWSLETTER

HIGHLIGHTS

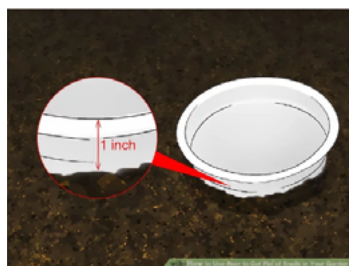
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Spring plant scouting: What to look for and how to make a slug trap

If you planted last fall, now is the time to be scouting for the emergence of plants and monitoring for pests, especially slugs. While slugs can be a problem throughout the season, they can devastate newly emerged seedlings and may be the greatest threat to ginseng plants in their first year. Slugs come out at night, so be sure to scout for them in the evenings. If you cannot make it out in the evenings, renowned ginseng researcher Bob Beyfuss recommends placing a grapefruit half, cut side down, near the plant and checking it in the morning. If you have slugs, they will be in the grapefruit.

An additional option is constructing a beer trap from a plastic soda bottle. Here's how:



1. Make a plastic bottle trap as shown in the picture. Fill your trap halfway with beer. Snails aren't picky about what sort of beer they drink. Any good brew will do!
 2. Plant the trap in soil with the top edge about one inch above the edge of the soil. Set multiple traps three feet apart.
- Snails/slugs will be unable to leave once they slide in to get the beer.
 - No need to empty traps filled with dead dead snails: Other snails will be attracted to their friends' decomposing bodies.

These two methods are designed to indicate if you have a problem or not; they are not meant as a treatment. Treatment may involve the construction of dry, abrasive borders around your plots with materials such as diatomaceous earth, sand, or lime. Chemical treatments are also available, but you should be aware of the effect these may have on beneficial insects and animals.

What's going on in our wild-simulated ginseng plots?



Our seeds are smiling, and so are we! American ginseng seeds require exposure to two winter seasons to germinate. When this period is complete and the embryo is developed, the seed coat will crack open and appear to be smiling. That is why our seeds are smiling, and so are we to see them germinate successfully.

Take your time when scouting for newly emerged American ginseng seedlings. They are very small and easy to miss. These two seedlings were spotted the first week of April, and some seedlings already have fully opened leaves.



IGI receives weather station for wild-simulated ginseng experimental plot



The International Ginseng Institute was gifted a Davis weather station by The Harvest Chain Farm Direct. It is located in our wild-simulated ginseng plots at MTSU. In addition to measuring temperature, humidity, rainfall, rain rate, wind direction, wind speed, solar radiation, and particulate air quality matter, this system is equipped with a soil probe (36") that will monitor soil temperature, moisture content, and electroconductivity.

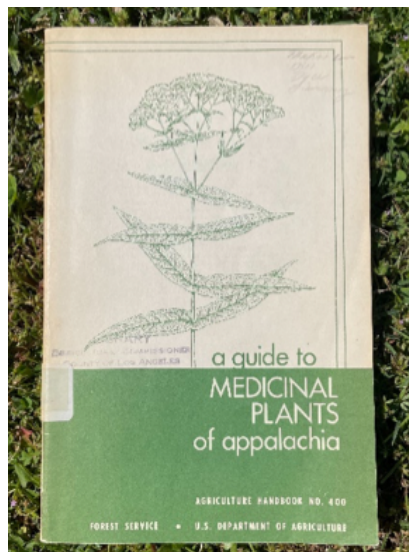


IGI in the news

The International Ginseng Institute was featured in an article published by *Undark*, which is a nonprofit, editorially independent digital magazine exploring the intersection of science and society.

The full article may be found at undark.org/2020/11/04/save-wild-ginseng-appalachia/

A 52-year-old gift



We recently received a rare and very special book, *A Guide to Medicinal Plants of Appalachia*, from Cindy Werner, Los Angeles County Agricultural Commissioner/Weights and Measures. The book was published in 1969 for the U.S. Department of Agriculture Forest Service. Not surprisingly, American ginseng (*Panax quinquefolius* L.) was featured in the book!

The Los Angeles County Agricultural Commission/Weights and Measures archive has quite a collection of materials and books, some dating back to the 1880s. Werner was excited to finally find a home for this book, and we are excited to have it. **Thank you, Cindy Werner!** It is truly a

treasure and a legacy from half-century ago. Together we are all part of the effort to continue this tradition and to sustain this valuable natural resource in Appalachia.



Meet an impressive family working with American ginseng

Meet the inspiring mother of triplets who is currently working with the International Ginseng Institute in developing a rapid and efficient ginsenoside extraction method that will help growers assess the value of their product.

mtsunews.com/teen-prodigies-thrive-as-dual-enrollment-students/

They were featured by *People*: "14-Year-Old Tenn. Triplets Are on Pre-Med Track at Same College Where Their Mom Studies Biology."

people.com/human-interest/14-year-old-tennessee-triplets-are-on-pre-med-track-at-same-college-where-their-mom-studies-biology/

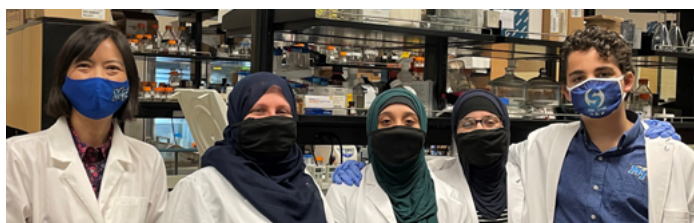


Khadijah and her children have produced a wonderful animated video explaining the process of ginsenoside extraction.

youtube.com/watch?v=czU3C0Ekb84&t=1s



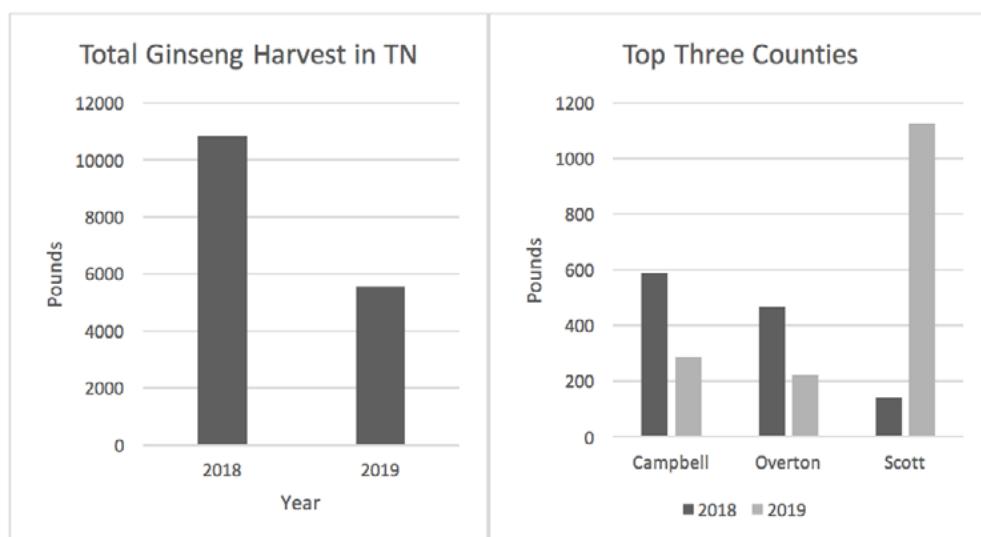
President Sidney A. McPhee, center, met future MTSU Blue Raiders Fatimah, left, mom Khadijah, Ahmed, and Zaynab Alnassari in October 2019 during the True Blue Tour event at the Millennium Maxwell House Hotel in Nashville. The triplets are MTSU dual enrollment students who made the fall 2020 Dean's List.



From left are Dr. Iris Gao (mentor), Khadijah, Zaynab, Fatimah, and Ahmed Alnassari.

Khadijah Alnassari has won an Undergraduate Research Experience and Creative Activity (URECA) grant sponsored by MTSU, and the children—Zaynab, Fatimah, and Ahmed—have been awarded research funding by the Lindsey Vonn Foundation, to continue ginsenoside extraction research in summer 2021.

Tennessee American ginseng harvest



Ginseng harvest data obtained from the U.S. Fish and Wildlife Service CITES export program via Caitlin Elam, ginseng coordinator at the Tennessee Department of Environment and Conservation. This data represents the total number of pounds harvested in Tennessee and does not represent the total number of pounds that were sold in Tennessee during that time.

Bring us your diseased American ginseng plants

Bring us your diseased plants! The IGI will begin to investigate regional American ginseng diseases in the hope of providing American ginseng-specific treatment options. Plants showing signs of root rot (below left) and leaf blight (below right) are especially important to us. Please contact the IGI for instructions on how to submit your sample to our resource base. We now have an excellent lab technician, Ethan Swiggart ([615-904-8351](tel:615-904-8351) or ginseng@mtsu.edu), whom you can also contact.



Healthy (left) and *Phytophthora cactorum*-infected ginseng roots (University of Wisconsin–Madison Extension XHT1057)



Ginseng plant with leaf blight (Oregon State University Extension 2009c)

In fall 2020, we distributed ginseng seeds to approximately 40 Tennessee ginseng growers. Happy growing! Share with us your story about American ginseng.

"I remember, as a child into my teenage years, ginseng hunting with my father—snakes and all. My grandmother made tea from it, and my dad, well, he used it in a little sipping of white lighting. 'Cured what ails you,' he would say."
—Freda, a Tennessee ginseng friend



As always, remember that the International Ginseng Institute is your resource for all things ginseng. Don't hesitate to contact us with your thoughts or concerns. We will keep you connected with the community and continue to make this a better experience for all.

Visit us at mtsu.edu/ginseng, and write to us at ginseng@mtsu.edu

I AM *true*
BLUE

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