

RURAL RESILIENCE FOR THE GLOBAL MARKET: REFORMING OHIO GINSENG LAWS FOR THE POST-PANDEMIC ERA

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I. INTRODUCTION

For hundreds of years, people in rural communities throughout Appalachia and beyond have earned money by digging up the root of a small leafy plant to export to East Asia.¹ Ginseng is known across many different cultural traditions for its medicinal properties and today has grown to become a status symbol.² The demand for American ginseng has continued to climb, leading to the overharvesting of the “green gold.”³ Because the roots are so valuable and require almost no overhead to acquire, the plant has even become a currency in the illegal drug trade⁴ causing ginseng growers to take severe measures to protect their crops from poachers.⁵

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¹ See W. SCOTT PERSONS, *AMERICAN GINSENG: GREEN GOLD*, 21 (1st ed. 1986).

² Emily Cataneo, *In Appalachia, a Plan to Save Wild Ginseng*, *UNDARK* (Nov. 4, 2020), <https://undark.org/2020/11/04/save-wild-ginseng-appalachia/> [<https://perma.cc/JS98-AVRL>].

³ See Emma Ockerman, *Ohio's Green Gold: Ohio's Wild Ginseng Growers Face Poachers and Trespassers*, *THE POST* (Nov. 16, 2016), <http://projects.thepostathens.com/SpecialProjects/ginseng-poaching-in-southeast-ohio/> [<https://perma.cc/BL8F-UZFT>].

⁴ See *id.*; see also Erin Brookshier, *Protecting the 'Mountain Gold,' Virginia Cracks Down on Illegal Ginseng Harvesting*, *WSLS.COM* (Sept. 13, 2017, 6:04 AM), <https://www.wsls.com/news/2017/09/13/protecting-the-mountain-gold-virginia-cracks-down-on-illegal-ginseng-harvesting/> [<https://perma.cc/8FJ6-4GMR>].

⁵ See, e.g., *Plea Deal to End Ginseng Slaying Case*, *DAYTON DAILY NEWS* (Mar. 15, 2013), <https://www.daytondailynews.com/news/crime--law/plea-deal-end->

The last few years have caused serious disruptions to the global ginseng market: tariffs from the trade war between the United States and China harmed the American ginseng exports⁶ and the plant's medicinal qualities may have increased its demand during the COVID-19 pandemic.⁷ Despite the uncertainties in the global economy, American ginseng remains a valuable source of economic resilience for rural communities throughout the United States and beyond. Regulating the plant is complicated because each ginseng-producing state takes a different approach to control the harvesting and production of the plant. Ohio should reform its ginseng laws to ensure the plant's long-term conservation while unlocking its economic potential for growers. It is vital that policy steps are taken to protect the plant going into the post-pandemic era, and that the State invests in the plant's legacy in the face of ecological and financial uncertainty around the world.

This note will first provide context on the state of American ginseng, including its history and an overview of the industry. Next, the note will describe state, federal, and international regulation of the plant. Ohio's ginseng laws are then contrasted with alternative reforms to incentivize wild-simulated production of the plant, such as providing separate legal treatment from wild plants, agriculture-oriented regulation, greater poaching

ginseng-slaying-case/DLJE3e1EsTr8J8WJsZQsdO/ [https://perma.cc/V99P-CGTW].

⁶ Naomi Xu Elegant, *Wisconsin Ginseng Farmers Had Been Exporting to China for a Century. Then Came the Trade War*, FORTUNE (Aug. 31, 2019, 6:30 AM), <https://fortune.com/2019/08/31/trade-war-china-ginseng-farm-wisconsin/> [https://perma.cc/3Y7Y-BM6C].

⁷ Cataneo, *supra* note 2.

protections, stricter conservation approaches, among other possible reforms. Finally, with each policy discussion for key issues affecting ginseng, this note will propose a model ginseng regulation that Ohio and other ginseng-producing states should adopt to ensure the most effective policy regulation to promote wild-simulated production, contribute to conservation efforts, and strengthen the economic potential for ginseng growers.

II. BACKGROUND

American ginseng is found in the eastern United States and Canada and is used in traditional and alternative medicine.⁸ Growers and foragers dig the plant's root, often selling it for eventual export to East Asia.⁹ The value of American ginseng continues to climb, which is likely because of the increased demand for the root and relative scarcity of the plant due to overharvesting.¹⁰ Ginseng's reputation as a cure-all has even provoked scientific interest in the plant as a possible treatment for COVID-19.¹¹

Because of a long history of overharvesting and other threats, the plant is regulated under the Convention on International Trade in Endangered Species ("CITES").¹² In addition to an overarching federal law adopting the

⁸ PERSONS, *supra* note 1, at 9.

⁹ *Id.* at 16.

¹⁰ Suzy Khimm, *China's Gold Rush in the Hills of Appalachia*, FOREIGN POL'Y (Sept. 7, 2016), <https://foreignpolicy.com/2016/09/07/the-thrill-of-the-hunt-ginseng-smuggling-poaching-boone-north-carolina-china/> [<https://perma.cc/V24H-4F6T>].

¹¹ Cataneo, *supra* note 2.

¹² *What Is CITES?*, CITES, <https://cites.org/eng/disc/what.php> [<https://perma.cc/8S2U-RB3M>] (last visited Feb. 19, 2022); *Appendices I, II and III*, CITES at 63 (June 22, 2021),

CITES Treaty, the nineteen ginseng-producing states represent a patchwork of different approaches to the growth, harvest, and sale of the plant.¹³ Even though American ginseng can be grown commercially in large quantities, wild ginseng is priced higher and is considered to be more potent medicinally.¹⁴ Those concerned with the vulnerability of American ginseng as a species have suggested that wild-simulated production of the plant may be crucial to ensure the highest price for the grower while maintaining the long-term sustainability of the plant.¹⁵

A. *What Is American Ginseng?*

American ginseng is a small leafy perennial plant that grows on the forest floor of the eastern United States and Canada.¹⁶ *Panax quinquefolius*, American ginseng, and *panax ginseng* (native to Asia) are the two main species of ginseng,¹⁷ which derives from “the Chinese *ren-shen* [(人參)], often translated to mean ‘man root,’” since the ginseng root can resemble a person.¹⁸ At up to twenty inches high, it would be easy to overlook an

<https://cites.org/sites/default/files/eng/app/2021/E-Appendices-2021-06-22.pdf> [https://perma.cc/X46C-SHXS].

¹³ *American Ginseng: AHPA's Good Stewardship Harvesting Brochures*, AM. HERBAL PRODUCTS ASS'N, <https://www.ahpa.org/AHPAResources/Regulations/Federal/WildAmericanGinsengGoodStewardship.aspx> [https://perma.cc/5DMT-BCB5] (last visited Feb. 19, 2022).

¹⁴ Cataneo, *supra* note 2.

¹⁵ *Id.*

¹⁶ PERSONS, *supra* note 1, at 9.

¹⁷ *Ginseng*, WEBMD, <https://www.webmd.com/diet/supplement-guide-ginseng#1> [https://perma.cc/MG3A-SKRX] (last visited Feb. 19, 2022).

¹⁸ Rene Ebersole, *Demand for Ginseng Is Creating a 'Wild West' in Appalachia*, NAT'L GEOGRAPHIC (Jan. 9, 2020),

American ginseng plant.¹⁹ The valuable root stock of the plant grows each year,²⁰ taking between three to twelve years to mature for harvest depending on the growing method.²¹

American and Asian ginseng contain chemical substances called ginsenosides, which are understood to provide the plants' medicinal properties.²² While both plant species serve as herbal medicine, they each offer somewhat distinct properties because of their differing types and amounts of ginsenosides.²³ Laboratory studies suggest that American ginseng is an antioxidant and immune system booster, and researchers have investigated whether ginseng could be used for inflammatory diseases, diabetes, cancer, colds and flu, ADHD, and cognition.²⁴ Because of American ginseng's potential to treat influenzas and upper respiratory conditions, it may even provide some protection against COVID-19.²⁵

In addition to its medicinal qualities, ginseng also has a great historical and cultural legacy. For thousands of years, ginseng has been used as a cure-all.²⁶ The pharmacological use of the herb was first recorded in

<https://www.nationalgeographic.com/animals/article/ginseng-root-appalachia> [<https://perma.cc/G54L-MX5W>].

¹⁹ PERSONS, *supra* note 1, at 7.

²⁰ *Id.* at 9.

²¹ Chip Carroll & Dave Apsley, *Growing American Ginseng in Ohio: An Introduction*, OH. ST. U. EXTENSION, <https://ohioline.osu.edu/factsheet/F-56> [<https://perma.cc/N9GR-9WVP>] (last visited Feb. 19, 2022).

²² *American Ginseng*, MOUNT SINAI, <https://www.mountsinai.org/health-library/herb/american-ginseng> [<https://perma.cc/2XDW-QBKL>] (last visited Feb. 19, 2022).

²³ *Id.*

²⁴ *Id.*

²⁵ See Abdulrhman Alsayari et al., *Pharmacological Efficacy of Ginseng Against Respiratory Tract Infections*, MOLECULES, July 2021, at 10.

²⁶ PERSONS, *supra* note 1, at 16.

China almost two thousand years ago, and it was first exported internationally in the third century A.D.²⁷ In North America, many different communities have made use of the “green gold”. American Indian tribes, such as the Cherokee, used American ginseng to treat different physical ailments.²⁸ As early as the eighteenth century, European colonists harvested wild ginseng for export to China, making large profits.²⁹ Ginseng has also played a role in some African American folk traditions in Appalachia, for both medicinal purposes and as a means to earn extra income.³⁰

The international trade in American ginseng persists and its root remains highly valuable. In 2020 alone, the United States exported approximately forty million dollars’ worth of ginseng.³¹ A decreasing supply and increasing demand for the root is likely driving the root’s high price.³² In the wholesale market to middlemen dealers, commercially grown American ginseng roots can sell for ten dollars to twenty-five dollars per dry pound, whereas wild or wild-simulated roots can sell for \$250 to \$800 per dry pound depending on the year.³³

²⁷ *Id.* at 16–17.

²⁸ *American Ginseng*, *supra* note 22; David A. Taylor, *Getting to the Root of Ginseng*, SMITHSONIAN MAG. (July 2020), <https://www.smithsonianmag.com/science-nature/getting-to-the-root-of-ginseng-65654374/> [<https://perma.cc/DH4N-CEPT>].

²⁹ PERSONS, *supra* note 1, at 20–21.

³⁰ Asia Smith, *Ginseng, Hoodoo, and the Magic of Upholding African American Earth-Based Traditions*, SMITHSONIAN FOLKLIFE FESTIVAL BLOG (Feb. 24, 2021), <https://festival.si.edu/blog/ginseng-hoodoo-african-american-traditions> [<https://perma.cc/7UCP-CVJR>].

³¹ *World Merchandise Exports and Imports by Commodity: Ginseng Roots 2020*, TREND ECONOMY, https://trendeconomy.com/data/commodity_h2/121120 [<https://perma.cc/KUY8-UYBB>] (last visited Feb. 19, 2022).

³² Khimm, *supra* note 10.

³³ Carroll & Apsley, *supra* note 21.

Most of the ginseng that the United States exports goes to China,³⁴ where it then retails for \$8000 per pound on average.³⁵ China's growing middle class has "boosted a demand for all manner of commercial goods, including ginseng, a symbol of heritage and health."³⁶ Additionally, ginseng has become an increasingly popular supplement in the United States and around the globe, which contributes to the growing global market for the plant.³⁷

The present pandemic era poses new challenges to the international ginseng market. There are concerns that the COVID-19 pandemic may further increase the demand for American ginseng because of its prominence as an alternative medicine.³⁸ Meanwhile, the recent trade war between the United States and China harmed ginseng exporters who temporarily faced a sharp increase in tariffs.³⁹ Global economic uncertainty from the pandemic has generally caused ginseng prices to fluctuate.⁴⁰

The history of ginseng in both East Asia and North America can be characterized by overharvesting and ecological precarity. Because of

³⁴ Khimm, *supra* note 10.

³⁵ Ebersole, *supra* note 18.

³⁶ Khimm, *supra* note 10.

³⁷ See *Global Ginseng Market to Reach US\$12.6 Billion by the Year 2027*, REPORTLINKER (June 23, 2021), <https://www.globenewswire.com/news-release/2021/06/23/2251761/0/en/Global-Ginseng-Market-to-Reach-US-12-6-Billion-by-the-Year-2027.html> [<https://perma.cc/ZF7E-TRSA>].

³⁸ Cataneo, *supra* note 2.

³⁹ Xu Elegant, *supra* note 6.

⁴⁰ Bente Bouthier, *Ginseng Dealers See Less Stable Market During COVID-19 and Dwindling Harvesters*, IND. PUB. NEWS (Oct. 1, 2021), <https://indianapublicmedia.org/news/ginseng-dealers-seeing-less-stable-market-during-covid-19,-and-dwindling-harvesters.php> [<https://perma.cc/L7LR-9LRL>].

overharvesting, native wild ginseng is almost extinct in East Asia.⁴¹ The combination of overharvesting, climate change, deforestation, and the white-tailed deer population threaten the viability of American ginseng in North America.⁴² The high price of American ginseng seems to further encourage overharvesting and poaching. Apart from the threat of illegal harvesting on public lands, wild-simulated ginseng producers may fear theft of their ginseng crop.⁴³ In the United States, researchers have found that high harvest levels “increased sharply [in areas] with poverty and unemployment.”⁴⁴ This data aligns with the culture of rural resiliency tied with ginseng harvesting, with the “blue-collar Appalachians whose families have been hiking out to hunt sang for generations,”⁴⁵ where the plant could be harvested for extra income during times of economic downturn.⁴⁶ In this way, rural communities already dealing with the effects of poverty are also being faced with the diminishing presence of a valuable natural asset.

B. *How is American Ginseng Grown?*

⁴¹ Khimm, *supra* note 10.

⁴² *Id.* (“Conservation biologist Sara Southern has simulated what a 1-degree Celsius increase over the next 70 years would mean for wild ginseng. She’s found that when warming is combined with harvesting’s effects, the plant’s extinction risk hits 65 percent.”).

⁴³ Cataneo, *supra* note 2; see *Plea Deal to End Ginseng Slaying Case*, *supra* note 5.

⁴⁴ John Paul Schmidt et al., *Explaining Harvests of Wild-Harvested Herbaceous Plants: American Ginseng as a Case Study*, 231 BIOLOGICAL CONSERVATION 139, 142 (2019); see also Cataneo, *supra* note 2 (showing that ginseng farmers express concern that shows like the History Channel’s “Appalachian Outlaws” romanticize poaching ginseng).

⁴⁵ Cataneo, *supra* note 2.

⁴⁶ Khimm, *supra* note 10 (describing how a man turned to harvesting wild ginseng after the 2007 financial crisis).

American ginseng can still be found in the wild, but it is also farmed.⁴⁷ There are essentially three methods of growing ginseng: (1) field grown under shade covers, (2) woods-grown in tilled ground, and (3) wild-simulated.⁴⁸ In general, the first two methods produce roots that are much less valuable than wild or wild-simulated ginseng.⁴⁹ Method (1) may require the use of pesticides and chemical fertilizers⁵⁰ and the installation of expensive artificial shade structures, while resulting in a larger “carrot-like” root.⁵¹ Under method (2), the plant is grown in tilled soil in the forest and results in a root that is somewhat more valuable than those grown by method (1), but is also susceptible to disease and may require some amount of pesticide and fertilizer inputs.⁵² For (3), farmers rake back leaves in hardwood forests, cast seed, and cover them up again.⁵³ Method (3) simulates wild plants because the roots must grow around natural obstacles, causing them to take on interesting shapes, which is a prized characteristic in traditional markets.⁵⁴ Therefore, there is a spectrum between (1), which is the most similar to conventional agricultural practices, on one end, and purely wild ginseng on the other, with method (2) being closer to (1) and method

⁴⁷ Carroll & Apsley, *supra* note 21.

⁴⁸ *Id.*

⁴⁹ *Id.*

⁵⁰ Cataneo, *supra* note 2.

⁵¹ Carroll & Apsley, *supra* note 21.

⁵² *Id.*

⁵³ Brian Barth, *5 of the Most Valuable Crops You Can Grow in the US & How to Grow Them*, MOD. FARMER (July 17, 2017), <https://modernfarmer.com/2017/07/5-valuable-crops-can-grow-us-grow/> [<https://perma.cc/6CP6-3HS3>].

⁵⁴ Chip Carroll & Dave Apsley, *Growing American Ginseng in Ohio: Site Preparation and Planting Using the Wild-Simulated Approach*, OH. ST. U. EXTENSION, <https://ohioline.osu.edu/factsheet/F-57> [<https://perma.cc/4M8F-XCDR>] (last visited Feb. 19, 2022).

(3) being closer to wild ginseng. Given the minimal overhead and the potential for earning higher prices, method (3) is an attractive option for ginseng growers.

C. How Can the Wild-Simulated Production Method Promote Conservation and Profitability?

Price pressures on American ginseng are likely to continue to grow. Large scale cultivation of non-timber forest products, such as ginseng, are “less likely to have decreases in collection in the wild,” because of the great interest in “wild-sourced plants.”⁵⁵ Field-grown ginseng from Marathon County, Wisconsin, which represents some ninety-five percent of the ginseng exported from the U.S.⁵⁶, therefore is unlikely to reduce the pressure from harvesting the wild plant in the woods. Scientists have suggested that promoting wild-simulated ginseng can be an effective means to “reduc[e] pressure on the overharvested wild stock.”⁵⁷ This could also be an alternative conservation strategy to an outright ban on exports, which could create a black-market, drive-up prices, and further increase overharvesting.⁵⁸ Despite a recognition of these issues, there is still no single uniform approach to regulate ginseng across the nineteen ginseng-producing states.

⁵⁵ Hold Liu et al., *Conservation Impacts of Commercial Cultivation of Endangered and Overharvested Plants*, 33 CONSERVATION BIOLOGY 288, 295–97 (2019).

⁵⁶ Xu Elegant, *supra* note 6.

⁵⁷ Cataneo, *supra* note 2.

⁵⁸ Khimm, *supra* note 10.

In terms of profitability, wild-simulated production has both low overhead costs and a high sale value. Shade structures, pesticides, fertilizers, and other maintenance costs are not required for wild-simulated cultivation, only forested land.⁵⁹ Disease is also not as much of a threat to ginseng crops under a wild-simulated approach.⁶⁰ Site selection and security are important for all forms of ginseng farming, especially since “ginseng’s biggest pest is the poacher.”⁶¹ In terms of the price, there is year-to-year fluctuation, but wild (or wild-simulated) roots can earn up to fifteen times more than field grown roots.⁶² Additionally, consumers face challenges distinguishing different types of ginseng, and intentional marketing may be an additional means to highlight sustainability and pesticide-free growing methods.⁶³ Moving forward, distinguishing wild-simulated ginseng could represent a means to add value to roots, ensuring quality to consumers and a pathway towards greater sustainability.

III. AMERICAN GINSENG REGULATION

A. Convention on International Trade in Endangered Species of Wild Fauna and Flora (CITES)

The international, federal, and state laws affecting American ginseng are primarily concerned with conservation. The plant is covered by CITES,

⁵⁹ Carroll & Apsley, *supra* note 21.

⁶⁰ *Id.*

⁶¹ Carroll & Apsley, *supra* note 54.

⁶² Khimm, *supra* note 10.

⁶³ See Cataneo, *supra* note 2.

a treaty that “aim[s] to ensure that international trade in specimens of wild animals and plants does not threaten the survival of the species.”⁶⁴ Ginseng falls under Appendix II of CITES, which applies to plants and animals that are not currently at risk of extinction, “but that may become so unless trade is closely controlled.”⁶⁵ Before exporting (or importing) a ginseng specimen, a party must have a permit showing that the export will not be detrimental to the species and that the specimen was legally obtained.⁶⁶ CITES is given effect in United States law through regulations from the United States Fish and Wildlife Service (FWS), under the Department of the Interior.⁶⁷ The federal government also sells permits to harvest wild ginseng on federal lands to encourage sustainable harvesting of wild plants.⁶⁸ In this way, the federal government of the United States is implementing the foundational conservation goals of CITES.

B. State Regulation in Ohio

All ginseng-producing states have their own regulations to control the production and sale of the plant. Only nineteen states have FWS approval for the harvesting of wild ginseng, while four others only allow the export of

⁶⁴ *What is CITES?*, *supra* note 12; *Appendices I, II and III*, *supra* note 12, at 63.

⁶⁵ *The CITES Appendices*, CITES, <https://cites.org/eng/app/index.php> [<https://perma.cc/GPA2-9WKV>] (last visited Feb. 19, 2022); *Appendices I, II and III*, *supra* note 12, at 63.

⁶⁶ Convention on International Trade in Endangered Species art. 4, §§ 1–4, Mar. 3, 1973, 993 U.N.T.S. 243.

⁶⁷ 50 C.F.R. § 23.1 (2021); *see also*, 50 C.F.R. §§ 10, 13 & 17 (2021).

⁶⁸ *See, e.g., Wayne National Forest: Collecting Plants*, U.S. DEP’T OF AGRIC. FOREST SERV., <https://www.fs.usda.gov/detail/wayne/passes-permits/forestproducts/?cid=stelprdb5066229> [<https://perma.cc/83SG-E935>] (last visited Feb. 19, 2022).

artificially propagated plants.⁶⁹ Among those nineteen states there is variation in how the plant is regulated. For example, Illinois is the only state that requires wild ginseng plants to be at least ten years old and have at least four leaves prior to harvesting, while most of the other states permit the harvest of wild plants with only three leaves that are at least five years old.⁷⁰ States also task different agencies with regulating the plant. Ohio's Department of Natural Resources Division of Wildlife regulates ginseng⁷¹ whereas Kentucky regulates ginseng under its Department of Agriculture.⁷² Differences in state regulations likely reflect competing values, such as administrative ease and degrees of concern for conservation.

Ohio's own ginseng laws are a product of both statute and agency regulations. The Ohio General Assembly created the current version of Ohio's ginseng management program in 2006, empowering the head of the Division of Wildlife in the Ohio Department of Natural Resources ("ODNR") to carry out the program.⁷³ The management program aims to

⁶⁹ *American Ginseng*, U.S. FISH & WILDLIFE SERV. INT'L AFF., <https://www.fws.gov/international/plants/american-ginseng.html> [<https://perma.cc/EWX4-7HNL>] (last visited Feb. 19, 2022); *List of States and Tribes with Approved Export Programs for Furbearers, Alligators, and Ginseng*, U.S. FISH & WILDLIFE SERV. INT'L AFF. (Mar. 2021), <https://www.fws.gov/international/pdf/table-list-of-states-and-tribes-with-approved-export-programs-for-furbearers-alligators-and-ginseng.pdf>.

⁷⁰ *American Ginseng*, U.S. FISH & WILDLIFE SERV. INT'L AFF., *supra* note 69.

⁷¹ OHIO DEP'T OF NAT. RESOURCES, DIV. OF WILDLIFE, PUB. NO. 5007 (0816), OHIO'S GREEN GOLD: AMERICAN GINSENG, <https://ohiodnr.gov/static/documents/wildlife/permits/Ginseng%20Green%20Gold%20pub007.pdf> (last visited Feb. 19, 2022).

⁷² *Ginseng*, KY. DEP'T OF AGRIC., <https://www.kyagr.com/marketing/ginseng.html> [<https://perma.cc/83CP-H55E>] (last visited Feb. 19, 2022).

⁷³ OHIO REV. CODE ANN. §§ 1533.86–.88 (West, Westlaw Edge through File 75 of the 134th General Assembly).

establish a ginseng harvest season, certify legally harvested ginseng, establish a buying season, outline ginseng permitting and recordkeeping, and further ginseng education.⁷⁴ Violation of these laws can result in a first degree misdemeanor with the possibility of court-ordered restitution.⁷⁵ Ohio's statutory definitions for the plant do not align with the distinctions that researchers and growers emphasize. For example, "wild ginseng" encompasses plants that grow on their own in the woods in addition to wild-simulated plants that are farmed.⁷⁶ Similarly, there is no statutory distinction in terms of what constitutes "cultivated ginseng,"⁷⁷ ignoring the important variation in commercial growing methods. These definitions align with the federal ginseng export regulations which only distinguish between "artificially propagated" and "wild" ginseng.⁷⁸

Ohio's ginseng statute generally aligns with the goals of CITES. In particular, ODNR is directed to regulate the plant with conservation in mind: "[the Ginseng Management Program] shall be administered to achieve and maintain a sustained yield of ginseng so that harvesting of the plant is not detrimental to the survival of the species."⁷⁹ This statement appears to be the necessary "intelligible principle" required by Ohio administrative law, in

⁷⁴ *Id.* § 1533.88.

⁷⁵ *Id.* § 1533.99.

⁷⁶ *Id.* § 1533.86 (B).

⁷⁷ *Id.* § 1533.86 (C).

⁷⁸ 50 C.F.R. §§ 23.64, 23.68 (2021); see *About American Ginseng Permits*, U.S. FISH & WILDLIFE SERV. (Mar. 2021), https://fwsepermits.servicenowservices.com/fws?id=fws_kb_article&sys_id=4d7a23d61b7e50104fa520eae54bcbdd [<https://perma.cc/4BQ6-N4U4>].

⁷⁹ OHIO REV. CODE ANN. § 1533.87 (West, Westlaw Edge through File 75 of the 134th General Assembly).

order to guide the administrative rulemaking action for ODNR.⁸⁰ However, the statute itself does not give further direction or guiding principles on how to achieve those goals in line with current ginseng conservation research.

ODNR periodically updates their Ginseng Management Program through the Ohio Administrative Code. During Fall of 2021, for example, the Department made revisions to the program that will go into effect in 2022.⁸¹ These rules dictate facets of ginseng production, including: what time of the year the wild plant can be harvested (September first through December thirty-first), how the plant can be harvested (requiring any seeds to be sown nearby), what permission is required for harvesting on private or public land, and what recordkeeping is necessary.⁸² The bulk of these regulations focus on the permitting process for ginseng dealers and certification for export.⁸³ In fact, the upcoming changes to the ginseng management program only apply to export certification.⁸⁴ As for definitions, the administrative code aligns with the statutory definitions, considering all commercially cultivated

⁸⁰ See generally Christopher B. McNeil, § 1:26. *Administrative Authority and Ohio Case Law—Procedural Safeguards, and Policy Statement*, in OHIO ADMIN. L. HANDBOOK & AGENCY DIRECTORY (2020–2021 ed.).

⁸¹ Final Filings, 2021 Ohio REG TEXT 590443 (NS) (West, Westlaw Edge Oct. 14, 2021).

⁸² OHIO ADMIN. CODE 1501:31-40-01 (West, Westlaw Edge through 2021); see also *State v. Davis*, 177 N.E.3d 320, 2021-Ohio-3093 (Ohio Ct. App. 5th Dist. 2021) (discussing vagueness issues regarding the recordkeeping regulations in the context of a multistate U.S. FWS sting operation into violations of ginseng law, named “The Root of All Evil”).

⁸³ OHIO ADMIN. CODE 1501:31-40-02, -03 (Westlaw Edge).

⁸⁴ Final Filings, 2021 Ohio REG TEXT 590443 (NS) (West, Westlaw Edge Oct. 14, 2021) (changing the rules related to Ohio ginseng that is taken out of state and returned prior to certification).

ginseng the same and treating wild ginseng and wild-simulated ginseng the same.⁸⁵

III. ARGUMENT

As a longtime source of rural economic resilience, particularly in poorer counties in the Appalachian region of the United States, American ginseng needs to be regulated in such a way that maintains active stewardship for the plant while incentivizing active production. The ginseng regulatory schemes of other states offer alternative approaches that Ohio could adopt to improve its own ginseng laws. Statutory and administrative regulations could further differentiate the different ginseng production methods. Certification could be used to provide benefits for wild-simulated ginseng growers. Regulating non-wild ginseng as an agricultural commodity could grant protection for growers, as they face threats from poaching. Since nineteen states produce ginseng, there are nineteen approaches to regulating the plant.⁸⁶ The following analysis primarily considers the ginseng laws of two of Ohio's neighbors, Kentucky and West Virginia, since those two states each regulate the plant in a distinct way. Illinois's ginseng laws are also considered because of their strict approach towards conservation.

A. How Should Different Production Methods Be Defined?

⁸⁵ OHIO ADMIN. CODE 1501:31-1-02 (DD), (KKKK) (Westlaw Edge) (including definitions of "cultivated ginseng" and "Ohio wild ginseng").

⁸⁶ See, e.g., *American Ginseng: AHPA's Good Stewardship Harvesting Brochures*, *supra* note 13.

Statutory definitions are an important starting place for considering alternative ginseng regulation schemes. Definitions become controlling throughout connected statutes⁸⁷ and impact administrative regulations. Importantly, both Kentucky and West Virginia provide much greater specificity in defining ginseng in terms of how it is produced than Ohio does. Ohio should adopt new definitions to treat different ginseng production methods separately.

Instead of laying out its ginseng definitions in statute, the Kentucky General Assembly empowered the Kentucky Department of Agriculture (“KDA”) to administer a ginseng program, with the KDA defining the plant in the administrative rules.⁸⁸ The Kentucky regulations go to much greater lengths than Ohio’s to differentiate American ginseng in terms of production method, separately defining “artificially propagated” ginseng, “cultivated” ginseng, “wild” ginseng, “wild-simulated” ginseng, and “woods-grown” ginseng.⁸⁹ West Virginia’s legislature empowered the Division of Forestry under the West Virginia Department of Commerce to oversee ginseng.⁹⁰ West Virginia codified its ginseng definition section in statute in addition to stating it in regulations.⁹¹ Similarly to Kentucky, West Virginia distinguishes between “cultivated ginseng,” “green ginseng,” “wild ginseng,” “wild

⁸⁷ See *Burgess v. United States*, 553 U.S. 124, 129–30 (2008) (quoting *Lawson v. Suwannee Fruit & S.S. Co.*, 336 U.S. 198, 201 (1949)).

⁸⁸ KY. REV. STAT. ANN. § 246.660 (West 2011); 302 KY. ADMIN. REGS. 45:010 (West, Westlaw Edge through Feb. 1, 2022, Admin. Reg. of Ky. Vol. 48, No. 8).

⁸⁹ 302 KY. ADMIN. REGS. 45:010 § 1 (Westlaw Edge).

⁹⁰ W. VA. CODE ANN. § 19-1A-3 (West, Westlaw Edge through 2021 Third Spec. Sess.).

⁹¹ *Id.*; W. VA. CODE R. § 22-1-2 (West, Westlaw Edge through July 30, 2021).

simulated ginseng,” and “woods-grown.”⁹² In this way, these two sets of definitions distinguish between all of the common production methods for American Ginseng.

Ohio should separately define wild, wild-simulated, woods-grown, and cultivated ginseng, to recognize the full extent of ginseng production in the state. This will allow distinct regulatory schemes for each type of ginseng production method, empowering a landowner making investments in their long-term, wild-simulated root production to be treated differently from the occasional root forager. If growers have flexibility and additional protections, they will be encouraged to expand their ginseng production, thereby offsetting overharvesting pressures on the plant and earning themselves a greater level of income. In contrast, stricter age restrictions on digging wild roots could help conservation by ensuring that a plant is able to reproduce before it can legally be harvested. To this end, West Virginia’s definitions generally offer a better model insofar as they are more specific than Kentucky’s and explicitly recognize that chemicals should not be used

⁹² W. VA. CODE ANN. § 19-1A-3a (Westlaw Edge); W. VA. CODE R. § 22-1-2 (Westlaw Edge).

in wild-simulated ginseng production,⁹³ a growing concern for ginseng consumers in China.⁹⁴

One potential downside to this greater specificity is that buyers and consumers may not treat wild and wild-simulated ginseng the same in terms of price and esteem.⁹⁵ A wild-simulated ginseng grower may want their roots to be labeled as “wild ginseng” in order to ensure they receive the highest possible price.⁹⁶ That said, education and labeling may help assure consumers and dealers that wild-simulated and wild ginseng have essentially the same properties and appearance.⁹⁷ Furthermore, for current export purposes, the U.S. FWS only distinguishes between “wild” and “artificially propagated” ginseng,⁹⁸ which could benefit wild-simulated growers who could get “wild-simulated” designation of their roots for state regulatory purposes, but the premium “wild” status for federal export purposes. On balance, the benefits of separate regulatory treatment of wild and wild-simulated ginseng likely outweigh a perceived value differential for a

⁹³ Compare, e.g., W. VA. CODE ANN. § 19-1A-3a(P) (West, Westlaw Edge through 2021 Third Spec. Sess.) (“‘Wild simulated ginseng’ means ginseng that is purposefully planted in the woods without a bed being prepared and without the use of any chemical weed, disease or pest control agents”), with 302 KY. ADMIN. REGS. 45:010 § 1(15) (Westlaw Edge) (“‘Wild Simulated’ means ginseng grown: (a) From seed that was not planted [during a designated harvest season by seeds adhering to other plants that were harvested]; (b) With minimal interference by humans; and (c) Under natural canopy.”).

⁹⁴ See Cataneo, *supra* note 2.

⁹⁵ See *id.*

⁹⁶ See OHIO REV. CODE ANN. § 1533.86 (B) (West, Westlaw Edge through File 75 of the 134th General Assembly).

⁹⁷ See Cataneo, *supra* note 2.

⁹⁸ See 50 C.F.R. § 23.68 (2021).

grower. Making sure that the different ginseng production methods are defined differently is therefore vital for subsequent regulation.

Ohio's legal ginseng definitions should clearly delineate between the four primary production methods of the plant as a jumping off point for separate legal treatment. The State should consider adopting the following definitions from West Virginia Statute § 19-1A-3a:

- “Cultivated ginseng” means ginseng that is purposefully planted in beds under artificial shade using standard horticultural practices such as mechanical tillage, fertilization, weed control, irrigation and pesticides;
- “Wild ginseng” means *Panax quinquefolius* L. that is not grown or nurtured by a person regardless of the putative origin of the plants: Provided, That wild ginseng may originate from seeds planted by a digger at the same site from which the digger harvests the wild ginseng;
- “Wild simulated ginseng” means ginseng that is purposefully planted in the woods without a bed being prepared and without the use of any chemical weed, disease or pest control agents; and
- “Woods-grown ginseng” means ginseng that is purposefully planted in beds prepared in the woods in a manner that uses trees to provide necessary shade and which may be grown with the use of chemical or mechanical weed, disease or pest control agents.

B. How Can Separate Legal Treatment of Different Ginseng Growing Methods Benefit Wild-Simulated Ginseng Production?

Ohio should develop a separate regulatory scheme for wild-simulated ginseng production, recognizing both the important role that wild-simulated ginseng has for the protection of *panax quinquefolius* and the benefits this would provide for root growers hoping to increase their income. There is agreement in the ginseng research community about the need for

policy changes.⁹⁹ Kentucky and West Virginia offer useful starting places for comparing alternatives to Ohio's regulatory approach of treating wild and wild-simulated ginseng the same.

Apart from noting definitional differences, it is also helpful to compare the ginseng regulatory approaches of Kentucky and Ohio on the producer side with respect to harvesting requirements. Both states require: (1) that ginseng be harvested only from September to December (2) that any seeds from harvested plants be replanted near where the plants were collected, and (3) that the plant has at least three five-leafed prongs (or is five years old in Kentucky).¹⁰⁰ Kentucky's harvest requirements are more restrictive in that these three harvest limitations apply equally to all forms of ginseng, whereas Ohio only applies them to "wild ginseng".¹⁰¹ This distinction means that larger scale commercial growers in Ohio who employ artificial shade structures, grow ginseng in tilled beds under forest canopy, or use chemical pesticides or fertilizers, have much more flexibility in terms of their operations. However, the problem remains that Ohio wild-simulated growers are bound by the same requirements as wild root diggers.

⁹⁹ Symposium, *The Future of Ginseng and Forest Botanicals*, UNITED PLANT SAVERS, 10–13 (Alison Ormsby & Susan Leopold eds., 2017) [hereinafter *The Future of Ginseng and Forest Botanicals*].

¹⁰⁰ Compare OHIO ADMIN. CODE 1501:31-40-01 (West, Westlaw Edge through Nov. 30, 2021) (allowing the ginseng harvest season to extend from September first to December thirty-first), with 302 KY. ADMIN. REGS. 45:010 § 4 (West, Westlaw Edge through Feb. 1, 2022, Admin. Reg. of Ky. Vol. 48, No. 8) (allowing the ginseng harvest season to extend from September first to December first).

¹⁰¹ 302 KY. ADMIN. REGS. 45:010 § 4 (Westlaw Edge); OHIO ADMIN. CODE 1501:31-40-01 (Westlaw Edge); see also OHIO REV. CODE ANN. § 1533.86 (B) (West, Westlaw Edge through File 75 of the 134th General Assembly) (where "wild ginseng" encompasses both wild and wild-simulated plants).

Since 2005, West Virginia has adopted a robust approach to regulating ginseng production. From the legislative summary, this regulatory scheme “recognize[s] that purposefully planted ginseng is an agricultural industry in West Virginia with significant export potential” and that purposefully grown ginseng needs to be distinguished “from the collection of wild ginseng.”¹⁰² If someone wants to grow ginseng in West Virginia, they must apply for a ten dollar annual grower’s permit, have their growing site surveyed, have their land inspected to certify there is not already wild ginseng on the proposed planting site, and keep accurate records for each planting.¹⁰³ Importantly for poaching protection purposes, planting location information is exempt from West Virginia Freedom of Information Act requirements.¹⁰⁴ Growers and other collectors must then follow harvesting requirements similar to the three in place for Kentucky and Ohio, but only applying to wild, wild-simulated, and woods-grown ginseng, and not “cultivated” ginseng which can be harvested throughout the year.¹⁰⁵ In exchange for the costs involved in the surveying, certification, and recordkeeping requirements, ginseng growers receive separate treatment from wild root diggers.

From the perspective of wild-simulated ginseng growers in West Virginia, what is the material benefit of the state’s more extensive regulations? Cultivated ginseng can be harvested throughout the year and

¹⁰² H.D. B. Summ., 2005 Reg. Sess., H.B. 2663 (W. Va. 2005).

¹⁰³ W. VA. CODE ANN. § 19-1A-3a(e)(1) (West, Westlaw Edge through 2021 Third Spec. Sess.); W. VA. CODE R. § 22-1-9 (West, Westlaw Edge through July 16, 2021); W. VA. CODE R. § 22-1-12 (West, Westlaw Edge through July 16, 2021).

¹⁰⁴ W. VA. CODE R. § 22-1-13.2 (Westlaw Edge).

¹⁰⁵ *Id.* § 22-1-4; W. VA. CODE ANN. § 19-1A-3a(c)(3)(B) (Westlaw Edge).

thus gains a greater amount of flexibility. The designation does not provide separate benefit for a wild-simulated ginseng grower on the export and dealer side, since woods-grown ginseng and cultivated ginseng are considered artificially propagated for international export purposes where wild-simulated is treated as wild.¹⁰⁶ There may, however, be a degree of added protection that comes with a grower registering their ginseng crop with the state under this regulatory scheme with regard to criminal poaching issues, insurance or certain crop loss programs.¹⁰⁷ Where Ohio wild-simulated ginseng growers are granted a greater degree of flexibility under a straightforward set of regulations, West Virginia wild-simulated growers are given greater security and recognition in exchange for greater state oversight and additional cost.

While legal recognition represents an important step towards expanding wild-simulated ginseng production, it is important that there are also substantive benefits that accompany it to further incentivize growers to enter that market. Independent, third-party verification exists as an alternative to West Virginia's regulations to guarantee that ginseng is cultivated in a sustainable manner, which ultimately results in a higher price

¹⁰⁶ 50 C.F.R. §§ 23.64, 23.68 (2021); see *About American Ginseng Permits*, *supra* note 78.

¹⁰⁷ See, e.g., *Noninsured Crop Disaster Assistance, Basic Provisions*, U.S. DEP'T OF AGRIC., at 5, 9–10 (2019) (defining ginseng as a “Value Loss Crop” that “because of [its] unique value do[es] not lend [itself] to yield calculations”); see also Chip Carroll & Dave Apsley, *Growing American Ginseng in Ohio: Maintenance, Disease Control and Pest Management*, OH. ST. U. EXTENSION, <https://ohioline.osu.edu/factsheet/F-63> [<https://perma.cc/XP36-7NRQ>] (last visited Feb. 19, 2022).

for the grower.¹⁰⁸ In tandem with other ginseng conservation measures restricting the harvest and sale of wild roots, creating a distinct legal framework for the verification of wild-simulated roots would be an important way to allow growers to say that their roots were not taken from the wild stock.

Grower certification for wild-simulated ginseng from either the state or an independent organization each have their respective merits and costs. If Ohio were to offer both possibilities, they could adapt the following language from West Virginia State Rule § 22-1-9 to include a third-party verification option:

- Prior to planting cultivated, woods grown, or wild simulated ginseng, a grower shall (1) have a plat of the planting site prepared by a licensed surveyor or a forester [approved by the Ohio Department of Natural Resources, Division of Forestry.] The plat prepared by a registered forester shall be prepared by locating the boundaries of the planting site using Global Positioning Satellite (GPS) technology. The equipment must be capable of reading four or more satellites and be locked in to at least four satellites while traversing the planting site; (2) obtain a written determination from the Director certifying that the planting site is free from wild ginseng. The determination shall be made by an on-the-ground inspection of the intended planting site after April 15 and before June 15 of each year by a Division employee [or an agent of a third-party ginseng certifier.] For plantings in existence prior to July 1, [2022], a grower shall certify to the Director that no wild ginseng plants existed on the site prior to planting and provide copies of receipts of purchase of seed or rootlets or certifications from sellers of seed or rootlets if receipts are not available; and (3) shall keep accurate and complete records on each ginseng planting.

¹⁰⁸ See, e.g., *Forest Grown Verification Program Manual: Conservation Through Cultivation, FGV Program Application*, UNITED PLANT SAVERS (2020), <https://unitedplantsavers.org/fgv/fgv-application/> [<https://perma.cc/Q429-B33R>]; see also *The Future of Ginseng and Forest Botanicals*, *supra* note 99, at 13.

C. Should American Ginseng Be Treated as an Agricultural Commodity?

As part of a broader policy to promote wild-simulated ginseng production, non-wild American ginseng in Ohio should be treated like more of an agricultural commodity. The state can further its goal of conservation of the plant in part if it takes steps towards reducing the market reliance on wild roots, in exchange for wild-simulated American ginseng. By viewing wild-simulated ginseng as a crop that can be invested in, as opposed to a marginal woodland herb, the state can take active steps to create income for growers and protect wild ginseng stock.

Setting aside the differences in their respective state bureaucracies, it is insightful to compare which agencies our neighboring states employ to regulate ginseng. Ohio uses their Department of Natural Resources Division of Wildlife,¹⁰⁹ Kentucky uses their Department of Agriculture,¹¹⁰ West Virginia uses their Department of Commerce Division of Forestry,¹¹¹ Pennsylvania uses their Department of Conservation and Natural Resources,

¹⁰⁹ *Ohio Ginseng Management Program*, OHIO DEP'T OF NAT. RESOURCES, <https://ohiodnr.gov/wps/portal/gov/odnr/rules-and-regulations/rules-and-regulations-by-division/wildlife/ohio-ginseng-management-program> [https://perma.cc/27L9-L88K] (last visited Feb. 19, 2022).

¹¹⁰ *Ginseng Harvesters and Collectors*, KY. DEP'T OF AGRIC., <https://www.kyagr.com/marketing/ginseng-harvesters.html> [https://perma.cc/3HLY-6TX5] (last visited Feb. 19, 2022).

¹¹¹ *Ginseng Program*, W. VA. DIV. OF FORESTRY, <https://wvforestry.com/ginseng-program/> [https://perma.cc/P4MZ-2LAY] (last visited Feb. 19, 2022).

¹¹² Indiana uses their Department of Natural Resources Division of Nature Preserves¹¹³, and Michigan uses their Department of Agriculture and Rural Development.¹¹⁴ From this vantage point, states either view ginseng as an economic asset or as an object for conservation, though it can and should be both. To some extent, the federal government already takes a more nuanced approach to ginseng oversight by making ginseng projects eligible for U.S. Department of Agriculture Specialty Crop Block Grants while regulating ginseng exports through the U.S. Fish & Wildlife Service under the U.S. Department of the Interior.¹¹⁵ Regardless of which state agency houses ginseng regulation, it is important to have the most qualified entity, or entities, working towards the two goals of economic development and conservation.

If Ohio were to treat non-wild ginseng like more of an agricultural product, then growers could have additional support from the State. The large infrastructure surrounding agriculture in the State could be leveraged to

¹¹² *American Ginseng in Pennsylvania*, PENN. DEP'T OF CONSERVATION AND NAT. RESOURCES, <https://www.dcnr.pa.gov/Conservation/WildPlants/Ginseng/Pages/default.aspx> [<https://perma.cc/X9QN-YY2K>] (last visited Feb. 19, 2022).

¹¹³ *Ginseng*, IND. DEP'T OF NAT. RESOURCES, <https://www.in.gov/dnr/nature-preserves/ginseng/> [<https://perma.cc/9R55-H7YG>] (last visited Feb. 19, 2022).

¹¹⁴ *Michigan Ginseng Certification Program*, MICH. DEP'T OF AGRIC. AND RURAL DEV., https://www.michigan.gov/mdard/0,4610,7-125-2390_69571---,00.html [<https://perma.cc/2NUY-FR2X>] (last visited Feb. 19, 2022).

¹¹⁵ *What Is a Specialty Crop?*, U.S. DEP'T OF AGRIC., <https://www.ams.usda.gov/services/grants/scbgp/specialty-crop> [<https://perma.cc/FVX2-H263>] (last visited Feb. 19, 2022); *American Ginseng*, U.S. FISH & WILDLIFE SERV. INT'L AFF., *supra* note 69; *About the U.S. Fish and Wildlife Service*, U.S. FISH & WILDLIFE SERV., https://www.fws.gov/help/about_us.html [<https://perma.cc/8XMA-9X58>] (last visited Feb. 19, 2022).

advance root production: growers could benefit from state marketing programs to promote ginseng, develop new markets, and standardize quality;¹¹⁶ stronger penalties could be put into place for the destruction or theft of ginseng, similar to those in place for timber or other crops;¹¹⁷ more state agricultural extension agents could be trained to provide technical assistance to those interested in producing American ginseng; and programs to reduce property tax liability for agricultural lands could extend to forests where growers produce wild-simulated ginseng.¹¹⁸ With the added security and resources that come with state recognition of an agricultural asset, more individuals may take steps to grow wild-simulated ginseng and aid in the long-term conservation of the plant.

The Ohio General Assembly could shift control of the state's ginseng program from the Ohio Department of Natural Resources to the Ohio Department of Agriculture. For example, 302 Kentucky Administrative Regulation 45:010 could be adapted in the following way to make this change:

- [The statute] requires the Department of Agriculture to administer a program for ginseng in [Ohio]. This administrative regulation establishes the ginseng program including licensing and record keeping requirements for dealers, [growers, and harvesters,] a limited harvesting season, certification procedures, administrative

¹¹⁶ See OHIO REV. CODE ANN. § 924.02 (West, Westlaw Edge through File 75 of the 134th General Assembly).

¹¹⁷ See, e.g., OHIO REV. CODE ANN. § 901.51 (West, Westlaw Edge through File 75 of the 134th General Assembly).

¹¹⁸ See, e.g., *Current Agricultural Use Value (CAUV)*, OHIO DEP'T OF TAX'N, <https://tax.ohio.gov/wps/portal/gov/tax/government/real-state/cauv> [<https://perma.cc/XK6E-5SA9>] (last visited Feb. 19, 2022).

violations and civil penalties, and procedures for the suspension or revocation of a [dealer, grower, or harvester's] license.

D. Should There Be Harsher Criminal and Civil Penalties to Prevent Ginseng Poaching?

Poaching is one of the largest threats to American ginseng production, especially for wild-simulated crops, and growers often feel that current penalties are not strong enough to deter the theft of their crops.¹¹⁹ At the same time, it is worth asking (1) to what extent further criminalization will be effective in stopping a crime that is so tied to rural poverty and (2) whether the problem lies more with the education of judges and prosecutors on the importance of the ginseng industry.

In Ohio, individuals who poach ginseng, harvest it out of season, or violate other certification requirements are guilty of a first degree misdemeanor and may have to pay restitution.¹²⁰ A ginseng poacher could therefore spend up to 180 days in jail for each violation and be required to make the victim whole,¹²¹ which is a similar to the penalty for committing petty theft.¹²² If the value of the poached ginseng is greater than \$1000, a prosecutor could potentially pursue a felony theft charge.¹²³ Ohio's ginseng

¹¹⁹ Carroll & Apsley, *supra* note 21 (stating that “[t]he biggest potential problem any grower will face is the risk of having their crop poached”); *The Future of Ginseng and Forest Botanicals*, *supra* note 99, at 10–13.

¹²⁰ OHIO REV. CODE ANN. §§ 1533.882, 1533.99 (West, Westlaw Edge through File 75 of the 134th General Assembly).

¹²¹ OHIO REV. CODE ANN. § 2929.24(A)(1) (West, Westlaw Edge through File 75 of the 134th General Assembly); *see* 28 Ohio Jur. 3d Crim. L.: Procedure *Restitution in Misdemeanor Cases* § 1884 (Nov. 2021).

¹²² OHIO REV. CODE ANN. § 2913.02 (West, Westlaw Edge through File 75 of the 134th General Assembly).

¹²³ *Id.*

poaching penalties more or less align with penalties for similar agriculture and natural resource related crimes such as fraudulently marking ownership of timber (a first degree misdemeanor), interfering with trapping or fishing (a first degree misdemeanor), and catching non-game birds (a first degree misdemeanor).¹²⁴ Elsewhere in the Ohio Revised Code, there are only a few instances of agriculture and natural resource related crimes with higher penalties than those for ginseng poaching, such as tampering with or sabotaging livestock (a fifth degree felony) or selling aquatic species without the correct aquaculture permit (a fifth degree felony).¹²⁵ Even putting aside concerns for the effectiveness of enhanced criminal penalties for ginseng poaching, making the crime a felony would make it an exception to the norm because it is already punished in the same way as similar crimes.

Although each state's criminal codes are unique, Kentucky and West Virginia's approaches to punishing ginseng poachers diverge slightly from Ohio's laws. Kentucky imposes a civil penalty of between \$100 and \$1000 for various violations of its ginseng regulations, including harvesting the ginseng out of season, failing to leave ginseng seeds near the parent plant, and possessing underage ginseng, with fine increases for subsequent violations.¹²⁶ A person who knowingly purchases illegal ginseng is guilty of

¹²⁴ OHIO REV. CODE ANN. §§ 981.12, 981.99, 1533.03, 1533.07, 1533.99 (West, Westlaw Edge through File 75 of the 134th General Assembly).

¹²⁵ OHIO REV. CODE ANN. §§ 901.76, 901.99, 1533.632, 1533.99 (West, Westlaw Edge through File 75 of the 134th General Assembly).

¹²⁶ 302 KY. ADMIN. REGS. 45:010 (9) (West, Westlaw Edge through Feb. 1, 2022, Admin. Reg. of Ky. Vol. 48, No. 8).

a Class A misdemeanor (up to twelve months imprisonment)¹²⁷, which is greater than the punishment for theft of only a Class B misdemeanor (up to ninety days imprisonment).¹²⁸ In this way, there is greater pressure placed on ginseng dealers to ensure that their roots were lawfully obtained. If a typical ginseng poacher is caught however, at most they can expect a fine or less jail time than Ohio ginseng poachers. Instead of solely trying to disincentivize illegal harvesting, which could be more closely tied to economic privation, Kentucky's law takes greater aim at the middlemen.

West Virginia also provides civil and criminal penalties for ginseng crimes, such as harvesting ginseng on someone's land without their permission, harvesting out of season, harvesting a plant younger than five years old, or failing to keep proper records.¹²⁹ The State's Division of Forestry can impose a civil penalty of between \$500 and \$1000, while a county prosecuting attorney can impose a fine of between \$500 and \$1000 for the first offense, double that fine for each additional offense, and up to six months in jail.¹³⁰ West Virginia and Ohio both do not take Kentucky's approach of treating ginseng dealers separate from harvesters when they violate the law. Like in Ohio, it is conceivable that a county prosecutor in West Virginia might charge a person who poaches more than \$1000 of

¹²⁷ KY. REV. STAT. ANN. §§ 246.990(8), 532.090 (West, Westlaw Edge through Feb. 7, 2022).

¹²⁸ KY. REV. STAT. ANN. §§ 514.030(2), 532.090 (West, Westlaw Edge through Feb. 21, 2022).

¹²⁹ W. VA. CODE ANN. §19-1A-3 (West, Westlaw Edge through 2021 Third Spec. Sess.).

¹³⁰ *Id.*

ginseng with a felony.¹³¹ Unlike Ohio however, West Virginia's approach to ginseng poaching is harsher than laws punishing the illegal taking of crops for example, where the fine is capped at \$500 with up to six months in jail.¹³²

Given the \$1000 threshold for felony theft on top of explicit misdemeanors in Ohio (and West Virginia), it is unclear if increasing penalties further would have any deterrent effect on ginseng poaching. Even though there are many reasons why someone might illegally harvest ginseng, the practice has a clear nexus with a lack of rural economic opportunity and the drug addiction crisis in Appalachia and beyond, with a correlation between poorer counties and overharvesting.¹³³ Poverty has clear effects on a person's opportunities and the range of choices they choose to make.¹³⁴ Where lands have historically been treated as a commons and digging "sang" has been seen as a source of economic resilience, ignored by absentee landowners, it is understandable why the practice of poaching continues where there are fewer job opportunities.¹³⁵ With respect to drug addiction, roots are sold to middlemen who may disregard paperwork requirements or are traded for drugs directly, as individuals go to extreme lengths to fund

¹³¹ See W. VA. CODE ANN. § 61-3-13 (West, Westlaw Edge through 2021 Third Spec. Sess.).

¹³² *Id.* § 61-3-34.

¹³³ Betty Belanus & Justin Sisk, *The Roots and Remedies of Ginseng Poaching*, SMITHSONIAN FOLKLFESTIVAL BLOG (July 15, 2020), <https://festival.si.edu/blog/ginseng-poaching-roots-remedies> [<https://perma.cc/68WH-U9YC>]; Schmidt et al., *supra* note 43, at 142.

¹³⁴ See Richard Delgado, *The Wretched of the Earth*, 2 ALA. CIV. RTS. & CIV. LIBR. L. REV. 1, 11 (2011).

¹³⁵ See Belanus & Sisk, *supra* note 133.

their addictions.¹³⁶ Assuming that the goal of punishing poaching is deterrence, this requires that a person is making a rational decision about whether or not to poach.¹³⁷ Poverty may drastically affect what sources of income a person may consider legitimate and addiction can make individuals take desperate measures to pay for drugs. Using deterrence to justify increasing poaching penalties further seems to be problematic, with the possibility of declining returns with harsher punishments.

In Ohio, ginseng poaching is already punished at the highest level of misdemeanor,¹³⁸ and Ohio should consider alternatives to simply imposing harsher penalties. For example, ginseng community stakeholders have proposed (1) developing better relationships between law enforcement and dealers; (2) educating judges and prosecutors on the ginseng industry so that crimes are more effectively prosecuted under current law; and (3) developing a point system for repeat offenders with a loss of ginseng permits or hunting/fishing licenses.¹³⁹ Additionally, state and federal improvements of the social safety net could certainly have an impact on reducing crimes related to poverty. Economic development in rural areas could also create work opportunities where they are currently lacking. Still, if poaching

¹³⁶ *Id.*; Khimm, *supra* note 10 (quoting Boone County, Tennessee deputy sheriff Lucas Smith who said that ginseng “[is] as good as money on the streets,” for drug users.).

¹³⁷ See Beth A. Colgan, *Economic Liberty and Criminal Justice*, 43 HARV. J. L. AND PUB. POL’Y 31, 38 (Winter 2020); see also *Theories of Criminal Law*, STAN. ENCYCLOPEDIA OF PHIL. (Aug. 6, 2018), <https://plato.stanford.edu/entries/criminal-law/#JustCrimLaw> [<https://perma.cc/EFK4-V962>].

¹³⁸ OHIO REV. CODE ANN. §§ 1533.882, 1533.99 (West, Westlaw Edge through File 75 of the 134th General Assembly).

¹³⁹ *The Future of Ginseng and Forest Botanicals*, *supra* note 99, at 10–13.

remains one of the largest threats to wild-simulated ginseng production, growers do need some forms of immediate support to both protect their investments and incentivize further cultivation. Requiring a permit to harvest roots, having crops certified by a state agency or third party, and expanding crop loss insurance,¹⁴⁰ are all examples of immediate steps that would help to protect ginseng crops without giving felonies for ginseng crimes.

E. Could Stricter Conservation Laws Benefit Wild-Simulated Growers?

Ohio should consider strengthening restrictions on wild simulated ginseng harvesting to protect the wild stock of the plant as part of a larger regulatory scheme that has separate requirements for wild-simulated ginseng. If there was a process to verify the production method of a ginseng crop through the state or a third-party certifier, wild-simulated plants could have shorter age and size harvest requirement than wild plants. Such restrictions however could be detrimental to the tradition of wild root harvesting and undermine the role of American ginseng in rural economic resilience. There are also concerns that even greater restrictions could increase the illegal ginseng trade; an outright ban on harvesting for example could create an even higher price and a black market for the roots.¹⁴¹ Stricter conservation requirements in tandem with a harvesting license for example could be effective, by providing greater oversight of the trade in wild roots in

¹⁴⁰ *Id.*

¹⁴¹ Khimm, *supra* note 10.

particular and an opportunity to educate diggers on the “green gold’s” life cycle.

Ohio, Kentucky, and West Virginia have similar restrictions in place to ensure that a ginseng plant is sufficiently mature before it can legally be harvested. Ohio requires that the plant has at least three leaf stems, Kentucky requires that the plant be at least five years old or have three leafed prongs, and West Virginia requires that the plant be at least five years old.¹⁴² These size and age requirements are ineffective for achieving the goal of conservation because at that stage ginseng plants do not produce enough seeds to replace themselves, let alone increase the population.¹⁴³ The real replacement age for the plant is instead likely between twelve and twenty years and only a portion of plants grow three leaves after five years.¹⁴⁴ Under current law, Ohio is in a better position than West Virginia or Kentucky, since the three leaf standard may ensure that at least some of the ginseng plants are older than five years. Still, a person can be legally digging roots while contributing to the depletion of wild ginseng populations.

Since Kentucky, Ohio, and West Virginia have all adopted harvesting age requirements that fall short of the actual age of replacement

¹⁴² OHIO ADMIN. CODE 1501:31-40-01(B) (West, Westlaw Edge through Nov. 30, 2021); 302 KY. ADMIN. REGS. 45:010(4)(2) (West, Westlaw Edge through Feb. 1, 2022, Admin. Reg. of Ky. Vol. 48, No. 8); W. VA. CODE ANN. §19-1A-3a(b)(4) (West, Westlaw Edge through 2021 Third Spec. Sess.).

¹⁴³ Jim McGraw, *Taking the Broad View: How Are Wild Ginseng Populations Faring and When Does Conservation Policy Need to Change*, in *The Future of Ginseng and Forest Botanicals*, UNITED PLANT SAVERS, 155 (Alison Ormsby & Susan Leopold eds., 2017) (showing that “by age 5, plants may survive at a rate of 90% annually, but on average only produce 0.6 seeds each.”).

¹⁴⁴ *Id.* at 156–57.

for ginseng plants, it is helpful to look how other states limit harvesting. Illinois' ten year and four leaf requirement for wild (and wild-simulated) ginseng is unique.¹⁴⁵ Unlike Ohio, Kentucky, and West Virginia, wild (and wild-simulated) ginseng harvesters in Illinois must also acquire a seven dollar harvest license.¹⁴⁶ Although ten years falls short of an ideal replacement rate, it represents a serious step towards conservation, limiting how much ginseng can be harvested and by whom. For a ginseng producer using the wild-simulated method, the Illinois approach is not ideal because it greatly extends the window for being able to harvest the root. Growers benefit from the choice of when to sell based on market conditions, are already incentivized to produce older roots which sell for a higher price, and are likely sowing seeds that are different from the local wild genotype.¹⁴⁷ As a species that is actively disappearing, there should be a balance between conservation measures and paths to incentivize growing wild-simulated ginseng. Illinois' ginseng laws seem to put all of the emphasis on conservation, without creating any flexibility for wild-simulated cultivation.

To protect the long-term health of the plant, Ohio should certainly consider conservation science as part of its wild ginseng regulations. If the

¹⁴⁵ ILL. ADMIN. CODE tit. 17, § 1580.35 (West, Westlaw Edge through Feb. 18, 2022, Ill. Reg. Vol. 46, Issue 8); 525 ILL. COMP. STAT. 20/1e (West, Westlaw Edge through P.A. 102-695 of 2021 Reg. Sess.); see *American Ginseng: AHPA's Good Stewardship Harvesting Brochures*, *supra* note 13.

¹⁴⁶ 525 ILL. COMP. STAT. 20/2a (Westlaw Edge).

¹⁴⁷ Khimm, *supra* note 10; see also Robert Layton Beyfuss, *Can Wild Ginseng Regenerate New Plants from Replanted Rhizome?*, in *The Future of Ginseng and Forest Botanicals*, UNITED PLANT SAVERS, 24 (Alison Ormsby & Susan Leopold eds., 2017).

plant does not produce enough seeds to replace itself when it has three leaves, then Ohio's regulation likely gives too much weight to administrative simplicity and convenience for the ginseng digger, as opposed to conservation. While there is merit in having a simpler rule that does not undermine the tradition of harvesting ginseng as a traditional source of economic resilience,¹⁴⁸ the plant will cease to be a viable economic asset for anyone if the population continues to drop. Ohio's best option may be to adopt a third approach: increasing the age requirement for harvesting wild ginseng roots as Illinois has done, while giving wild-simulated growers the flexibility to harvest their roots as early as the current three leaf rule.

While all ginseng-producing states should be more serious about ginseng species conservation, there should not be a radical limitation or ban on ginseng harvesting, since that could produce unintended consequences. A complete ban on exports for example could create a black market for the roots and cause even greater overharvesting.¹⁴⁹ Under basic principles of supply and demand, greatly reducing the amount of legal ginseng for sale would drive up the price and incentivize poachers to find ways to sell the roots at even higher prices. Independent grower certification, by either the State or a third-party organization,¹⁵⁰ could permit wild-simulated ginseng growers an exception to any outright wild American ginseng export ban, by

¹⁴⁸ Khimm, *supra* note 10.

¹⁴⁹ Cataneo, *supra* note 2.

¹⁵⁰ See, e.g., *The Future of Ginseng and Forest Botanicals*, *supra* note 99, at 13 (describing how the state of West Virginia and Pennsylvania Certified Organic ("PCO") are already providing verification programs for forest-grown ginseng).

differentiating wild from wild-simulated roots. This scenario would still be problematic however, because (1) it would outlaw the traditional cultural practice of digging ginseng for non-landowners and (2) since the roots are somewhat fungible, a person could poach roots in one state and cross into a neighboring state with less restrictive rules to sell the ginseng and claim that the roots were from that state. Instead, increasing the age requirement for harvest would allow plants to replace themselves more before harvest, incentivize wild-simulated production, and still give ginseng hunters a chance to dig for “green gold”.

It is also important to realize that restrictions on ginseng trade alone will not necessarily ensure the sustainability of the plant in the long term – other policy tools are needed. Deforestation, overgrazing by deer, and climate change all threaten American ginseng.¹⁵¹ For example deer and climate change may have a comparable effect on ginseng population growth as overharvesting.¹⁵² Just like addressing ginseng poaching should be seen in the context of social safety net and economic development policies, lawmakers wanting to ensure ginseng conservation in the long-term need to see how the plant’s population decline is a result of larger systemic problems and not just immediate poaching.

¹⁵¹ Meghan Gonick, *Indications for the Importance of Growing Methods on Pharmacological Profiles of Herbal Medicines*, in *The Future of Ginseng and Forest Botanicals*, UNITED PLANT SAVERS, 74–75 (Alison Ormsby & Susan Leopold eds., 2017).

¹⁵² McGraw, *supra* note 140, at 160.

If Ohio had separate legal definitions for wild versus wild-simulated ginseng, the State could create stricter harvest age requirements for the plant. 17 Illinois Administrative Code 1580.35 provides an example of language Ohio could use: “The harvest of wild ginseng shall be limited to plants that are ten years of age (four-leafed) or older.”

Ginseng conservation efforts could be bolstered by harvester licensing, creating an additional layer of oversight to ensure that American ginseng was harvested legally. 525 Illinois Compiled Statutes 20/2a would be an effective model to adapt for Ohio:

- No person may cut, root up, gather or harvest wild ginseng unless the person has a harvest license issued by the Department. The fee for a harvest license is \$7 and is valid from April 1 to March 31. A harvest license is valid during the established harvest season for wild ginseng for the year during which it is issued. The Department shall establish by administrative rule the procedure for issuing licenses and regulations on the methods used to harvest. Harvested wild ginseng may be sold only to dealers licensed by the State of [Ohio]. All wild ginseng must be sold by harvesters no later than March 1 of the year following harvest.

F. Summary: What Would a Model American Ginseng Regulation

Look like for Ohio?

Fortunately for Ohio, there are eighteen other states that offer models for how to improve ginseng regulation in a way that promotes wild-simulated ginseng, thereby expanding an income source for rural landowners and helping to conserve the plant. The Ohio General Assembly in conjunction with a state agency, such as the Department of Natural Resources or the Department of Agriculture, could adopt several changes to statute or

administrative rules to improve the state's ginseng laws. In addition to adopting provisions from other states, Ohio could enact parts of this proposed ginseng regulation by simply tweaking its current regulations, such as (1) allowing harvests of wild-simulated ginseng at an earlier age than wild ginseng¹⁵³ and (2) utilizing ginseng penalty and fee revenue for the education of judges, prosecutors, and law enforcement agencies on issues related to ginseng poaching.¹⁵⁴

In summary, the policy changes outlined in this note would create distinct regulatory schemes for different ginseng production methods. Although there are certainly merits to the Ohio Department of Natural Resources having oversight over wild ginseng, other production methods would be better off with a more agricultural oriented regulatory scheme in order to treat the plant as more of a commercial asset than a marginal woodland plant. Conventionally cultivated ginseng would continue to be minimally regulated in Ohio. Greater restrictions would be placed on the harvesting of wild ginseng with the goal of conserving the wild plant stock. Requiring harvester licenses and establishing a greater age requirement would give the plant a greater opportunity to reproduce without facing such intense harvest pressure.

¹⁵³ *E.g.*, OHIO ADMIN. CODE 1501:31-40-01(B) (West, Westlaw Edge through Jan. 21, 2022) (changing current language to parallel Illinois language, but for wild-simulated, such as “The harvest of wild-simulated ginseng shall be limited to plants that are [5] years of age ([3] leafed) or older.”).

¹⁵⁴ *See, e.g.*, OHIO REV. CODE ANN. §1533.90 (West, Westlaw Edge through File 75 of the 134th General Assembly).

Wild-simulated ginseng would have the most specialized regulatory treatment. In exchange for crop certification from either the State or a third-party organization, wild-simulated growers could have greater harvest flexibility, poaching protections, marketing advantages, specialty crop support, among other benefits. Further, in the event of stricter national or international trade restrictions on American ginseng, legally distinguishing between wild and wild-simulated plants could potentially allow wild-simulated growers access to export markets in the event of a wild root export ban. For growers currently concerned with the threat of poaching, greater education for law enforcement and agricultural treatment could be a more effective approach than simply initiating harsher penalties for poachers. As discussed earlier in this note, many of these changes to incentivize wild-simulated ginseng production come at the cost of making it harder for non-landowners to dig the wild roots. However, without policy interventions at this stage, overharvesting may hasten the disappearance of “green gold” and deny future generations the opportunity to participate in the tradition of digging ginseng roots.

Overall, by adopting these changes Ohio would incentivize the growth of wild-simulated ginseng while enacting a stricter set of rules for harvesting the wild roots. Again, some of the biggest challenges facing American ginseng and its cultivation, namely poaching and population loss, are in large measure a result of broader policy issues such as rural poverty and climate change. A truly comprehensive plan to guarantee economic and

ecological sustainability for the plant cannot end with narrow changes to state regulations. With the continued economic uncertainty of the pandemic era, policy changes now could create the needed stability for greater investment in ginseng, bearing fruit over the next decade and beyond.

IV. CONCLUSION

American ginseng has an important cultural significance in addition to economic potential. Because the plant's wild population is in decline, Ohio and other ginseng-producing states should regulate it to promote sustainability and conservation. The wild-simulated method of producing the plant offers landowners an opportunity to earn a high return on their crops, while also reducing the price pressure that drives overharvesting of the wild stock. By changing its regulations to treat wild and wild-simulated ginseng differently, limit the harvest of wild plants, and create independent certification of wild-simulated crops, Ohio would better promote an alternative method of producing the "green gold" to achieve the two goals of conservation and profitability for landowners. For hundreds of years, people have relied on the humble ginseng root for medicine or financial subsistence, and it is vital that Ohio's laws honor that tradition in light of the global market uncertainties of the present pandemic era.