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University of Kentucky
College of Agriculture, Food and Environment
Cooperative Extension Service

AGMatters

February 2024 *Produce, Tobacco & Dairy News*

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Poison Hemlock - A Growing Concern

J.D. Green, Kentucky Pest News, 01.23.24

Poison hemlock (Conium maculatum) has become widespread throughout most of Kentucky. Although this plant is often seen along roadways, fence rows, and other non-cropland sites, it has expanded out into grazed pasture lands and hay fields. It has also become an increasing concern in residential locations when it is observed in areas that are not frequently mowed, such as vacant and abandoned lots. The concern not only stems from its invasive nature, but the fact that it is one of the most toxic plants in the world. Throughout history, the toxicity of poison hemlock is well known for accidental deaths of humans and other animals.

Description

Poison hemlock is classified as a biennial that reproduces only by seed. It is capable, however, of completing its lifecycle as a winter annual in Kentucky if it germinates during the fall months. New plants emerge in the fall or late winter forming a cluster of leaves that are arranged as a rosette on the ground (Figure 1). The individual leaves are shiny green and triangular in appearance. Although poison hemlock is most noticeable in late May and June during the flowering stage of growth, the vegetative growth stage is readily observed during the cooler months of the year with its parsley-like leaves which are highly dissected or fern-like.

As the plant begins to send up flower stalks in the spring, the leaves are alternately arranged on the main stem. Each individual leaf is pinnately compound with several pairs of leaflets that appear along opposite sides of the main petiole. As the plant matures, poison hemlock creates a taproot and grows upwards to about 6 to 8 feet tall. At maturity the plant is erect, often with multi-branched stems (Figure 2). Poison hemlock has hollow stems which are smooth with purple spots randomly seen along the stem and on leaf petioles. There are no hairs on the plant that helps distinguish it from other plants similar in appearance. The flowers, when mature, are white and form a series of compound umbels (an umbrella-shaped cluster of small flowers) at the end of each terminal stalk. Poison hemlock can be associated with areas having adequate moisture throughout the year, as well as, drier environments.

Figure 1. Poison hemlock rosette (Photo: JD Green, UK)

Toxicity

The risk of exposure to poison hemlock toxicity is primarily through ingestion. Just small amounts of ingestion can result in possible death to all mammals. The principal toxin in poison hemlock is coniine and a few other toxic alkaloids, which are present in all parts of the plant, including the seeds and roots. A well-known case of human toxicity was the death of Socrates, a Greek philosopher, who was sentenced to

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Upcoming Events

March 7
Private Applicator Training
Christian County Office, 8AM
Hopkinsville, KY

March 11
Pennyrile Beekeepers
Christian County Office
Hopkinsville, KY

March 18
2024 IPM Training School
Warren County Extension Office
Bowling Green, KY

March 20
Kentucky Local Foods Summit
Kroger Field, Lexington, KY

March 21
Farmers Markets and Local Foods
KSU Benson Research Farm
Frankfort, KY

April 4
Private Applicator Training
Christian County Office, 8AM
Hopkinsville, KY

April 8
Pennyrile Beekeepers
Christian County Office

May 2
Private Applicator Training
Christian County Office, 8AM
Hopkinsville, KY

May 14
Wheat Field Day
UKREC, Princeton KY

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EPA Advisory for Beekeepers

Ric Bessin, Kentucky Pest News, 01.23.24

The Environmental Protection Agency (EPA) issued an advisory to clarify what pesticide products and active ingredients are registered to control Varroa mites (Varroa destructor) in beehives and how it views the use of unregistered products to treat beehives. Additionally, EPA stressed that it remains committed to collaborating with and supporting the beekeeping community. It is providing an update on those efforts, which includes registering new tools for managing beehive pests and working with federal and local partners to advance valuable research.

The EPA stated that it recently learned that beekeepers may be using products containing pesticide active ingredients (e.g., oxalic acid, formic acid, amitraz, and thymol) that are not registered to control Varroa mites in bee colonies. In the advisory, EPA continues to affirm that (1) the use of registered pesticides must comply with labeling requirements under the Federal Insecticide, Fungicide and Rodenticide Act (FIFRA), (2) that pesticide residues in or on food derived from beehives (e.g., honey, comb, wax, propolis, royal jelly, pollen) must comply with any federal tolerances under FFDCA, (3) that use of unregistered pesticides to control varroa mites cannot extend beyond personal use, and (4) that there may be more restrictive state requirements that must also be followed. EPA remains committed to supporting states with primary enforcement authority to ensure compliance with FIFRA requirements. It is a violation of FIFRA to use registered pesticides in a manner that is not in accordance with label instructions.

Currently, EPA has registered 16 pesticide products covering about 10 active ingredients that can be used on beehives to control Varroa mites. Recently, EPA has registered two new Varroa mite control products (i.e., Varroxsan and Ex-Ox tablets) containing oxalic acid as the active ingredient. Each product allows for easier application of oxalic acid, and in the case of Varroxsan, a slower release and longer acting application of oxalic acid in the honey bee colony. EPA stated it will continue to prioritize the registration of pesticides that target Varroa mites and continue to provide helpful information about these products.

EPA considers any application of an unregistered pesticide for other than personal use (e.g., application of an unregistered pesticide to another person's property) to be distribution of an unregistered pesticide and a violation of FIFRA. Personal use would not likely include activities that involve any operation in commerce, such as selling or distribution of bees/colonies, pollination services, queens, honey, comb, wax, propolis, royal jelly, or pollen. An individual raising bees as a hobby and personally consuming whatever honey is harvested might be considered "own personal use." But as described above, an individual beekeeper cannot sell or distribute (which includes transportation) any unregistered pesticide and cannot sell or distribute any adulterated honey or other edible beehive products.

Kroger's New Supplier Rule Requires IPM

Vegetable News, 01.31.24

In a move touted as advancing sustainability in its fresh produce supply chain, a major U.S. retailer is introducing a produce supplier biodiversity program that places new requirements on its produce suppliers.

The move by The Kroger Co. is touted as protecting more pollinators, furthering biodiversity and creating a more sustainable produce supply chain, according to a news release.

The Cincinnati-based Kroger will require all of its fresh produce suppliers to use Integrated Pest Management practices for all products supplied to Kroger by 2028 or 2030, based on the grower's size. Medium- to large-sized growers will be expected to meet the goal by the end of 2028, and small-sized growers by 2030, according to the release.

Protecting biodiversity is an important part of Kroger's community impact strategy, Thriving Together. By encouraging growers to use fewer pesticides, the company is taking meaningful steps to improve pollinator health outcomes.

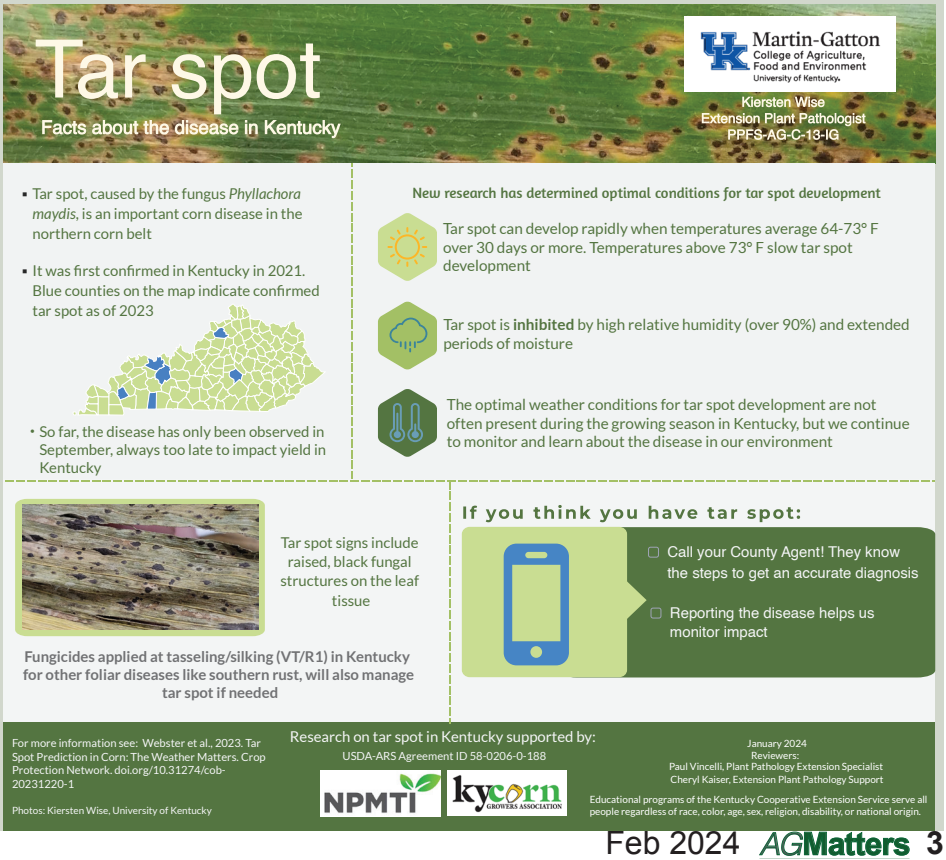
"We depend on a healthy and resilient agriculture supply chain to keep bringing fresh, affordable food to more of America," Lisa Zwack, Kroger's head of sustainability, said in the release. "This new goal reflects Kroger's evolving approach to sustainability and resource conservation, including setting clear expectations with growers to support the transition to more sustainable fresh food production."

Suppliers can comply by achieving one of the following certifications:

- Bee Better
- Biodynamic
- Certified Sustainably Grown
- Equitable Food Initiative
- Fair Trade International
- Fair Trade USA
- GLOBAL G.A.P.
- LEAF MARQUE
- MPS-ABC
- Rainforest Alliance
- Regenerative Organic
- Sustainable Food Group Sustainability Standard
- USDA Organic, or international equivalents

Kroger worked with the Sustainable Food Group, a branch of IPM Institute of North America, to develop the goal and roadmap to compliance. The company also consulted current best practices and interviewed suppliers to ensure the goal was both impactful and achievable.

"We are incredibly proud to have supported Kroger in the development of this policy, which will drive positive outcomes for biodiversity, including pollinator and broader agroecosystem health through adoption of robust Integrated Pest Management and other sustainable agriculture practices across fresh produce supply chains," Ariel Larson, Sustainable Food Group senior project manager, said in the release. Kroger will continue to expand its focus on sustainable agriculture, biodiversity and conservation. To take additional steps toward a more sustainable food system, the retailer will conduct a supply chain biodiversity risk assessment, pilot biodiversity metrics with row crop and specialty crop suppliers and conduct targeted climate risk assessments within its supply chain, according to the release.



Ways to Keep Spinach Crops Free of Aphids

John Palumbo, Growing Produce Magazine, 2.01.24

Aphids may be the most important insect pest found in spinach, particularly in fresh market spinach, with green peach aphid, Myzus persicae, considered the most economically important. Their ability to rapidly increase and contaminate harvestable leaves makes controlling aphids on spinach plants essential to avoiding crop losses. Cultural management tactics and natural enemies can reduce the impact of these pests, but you will likely need insecticides to prevent economic damage.

Aphid Biology. Green peach aphids are small, soft-bodied insects that have the potential to reach high densities under ideal conditions. Aphid life cycles are complex and vary considerably depending on growing region and climate.

In cropping systems with mild, temperate growing conditions (i.e., Coastal California and southern U.S.), green peach and potato aphids reproduce parthenogenically (asexually). Populations consist entirely of females that give birth to live female offspring. Green peach aphids tend to develop most rapidly when temperatures average about 55°F. Adult wingless (apterous) females give birth to live nymphs about 10 days after birth and can easily deposit 80 to 100 nymphs.

In climates with hard winter freezes, aphids will also reproduce sexually, and female aphids hatch from fertilized eggs laid on overwintering hosts plants.

Four nymphal instars occur with green peach aphid, each lasting about two to three days under ideal conditions. They develop rapidly, with more than 20 annual generations reported in temperate climates. Numerous overlapping generations can occur through the course of the season.

In response to crowding by other aphids or declining host plant quality, winged (alate) adult forms can disperse from field to field throughout a growing area.

Damage. Damage from aphids in spinach occurs in several ways.

Direct Feeding. Aphids have piercing-sucking mouthparts and feed on the phloem of spinach leaves by inserting their needle-like stylets into the plant's vascular tissue. Accordingly, direct feeding on small plants by high aphid densities can cause wilting and stunted plant growth. Feeding by nymphs within crowns of young spinach plants can distort spinach leaves, resulting in downgraded quality. Or, if excessive, render product unmarketable.

The most common economic damage stems from live aphids, exuviae, or honeydew contaminating harvestable foliage. Aphid populations initially colonize plant terminals, and if developed unchecked, can quickly infest harvestable leaves.

Excessive aphid feeding occasionally causes cosmetic blemishes to the plant tissue, usually in the form of yellow spots on leaves. Even a little aphid contamination and cosmetic injury to spinach leaves is not acceptable for most fresh markets.

Green peach aphids can vector viruses that are pathogenic to spinach. Beet western yellows virus (BWYV), and cucumber mosaic virus (CMV) are the most common in spinach crops. These viruses will stunt plant growth and discolor leaves rendering them unmarketable.

Cultural Management. Preventing aphids from colonizing spinach plants is critical because of their potential to contaminate harvested leaves. Aphid infestations begin with winged adults moving in and giving birth to live nymphs.

Consequently, monitor fields regularly, beginning at seedling emergence through harvest. Yellow sticky traps can monitor movement of winged adults into an area. You can find small aphid colonies on spinach crops following sharp increases in the number of winged aphids caught on traps. Visually sample individual plants during scouting to detect winged adults and colonizing nymphs. Pay particular attention to young terminal growth.

Cultural control methods such as sanitation and destroying crop residue immediately after harvest can minimize the spread of aphids to adjacent plantings. Weedy mustards and members of the goosefoot family adjacent to fields can host high numbers of green peach aphids. Controlling these weeds helps prevent the buildup of green peach aphids and associated feeding damage and virus infection on nearby spinach crops.

Aphids have many natural enemies including lady beetles, lacewings, syrphid fly larvae, and numerous parasitoids such as Aphidius spp. and Aphelinus spp. Despite the large number of natural enemies that attack aphids, they rarely provide adequate control of high aphid populations in spinach crops.

Insecticides. High quality requirements for insect- and blemish-free spinach means insecticides are almost always necessary to prevent economic losses.

Foliar applied insecticides can manage green peach and potato aphids cost-effectively. Most of the newer insecticides, including sulfoxaflor (Sequoia), flupyradifurone (Sivanto Prime), pyrifluquinazon (PQZ), afidopyropen (Versys), spirotetramat (Movento), and flonicamid (Beleaf), are translaminar or systemic and selective against sucking insects. They are also easy on natural enemies, have low-risk environmental profiles, and provide effective residual control againt all aphid species found infesting spinach. Initiate spray applications when aphids first begin colonizing plants.

Aphids in Wheat

Raul Villanueva, Kentucky Pest News, 02.13.24

Several aphid species are key pests in small grains (wheat, barley, and cereal rye) in Kentucky for their role as vectors of barley yellow dwarf virus (BYDV). Among them, bird cherry oat and English grain aphids overwinter as nymphs or adults. These aphids start feeding on plants when temperatures are greater than 45º F and can then potentially transmit viruses. Below 45º F, aphids are inactive, lethargic, and sheltered in soil crevices near the bases of wheat stems.

Current Conditions & Management

Since January 23, to February 12, 2024, there were 13, 12, and 14 days where temperatures were greater than or equal to 45º F in Lexington, Princeton, and Mayfield in Kentucky, respectively. Thus, during those days, aphids might be feeding on plants, and if they are carrying the viruses, may be spreading them to healthy plants. Under these conditions, it is recommended that farmers and consultants scout commercial fields before conducting sprays for aphid management. If tallies are above the threshold levels indicated in Table 1, an insecticide spray needs to be considered. Calendar-based sprays or preventative sprays are not recommended as they are not part of integrated pest management (IPM) programs.

Insecticide spray programs for aphid management should follow IPM practices instead of calendar-based programs. In Kentucky, the rest of the U.S., and many other parts of the world, calendar-based insecticide programs continue to be used due to time constraints for scouting, and economic savings achieved by reducing trips, and conducting combined applications of herbicides and fungicides across fields. However, as mentioned above, the use of IPM is recommended to avoid unnecessary application of insecticides, increase costs of production, reduce insecticide resistance, and kill natural enemies that may be keeping pests populations at low levels.

Crop age (days post emergence)	Nº of aphids per foot row
≤ 30 days post emergence	3
30 to 60 days post emergence	6
> 60 days post emergence	10

Table 1. The number of aphids per foot of wheat row required to support an insecticide application for management of BYDV.

Bird Cherry Oat Aphid, David Cappaert, Bugwood.org

Green Peach Aphid, Jim Baker, Bugwood.org

Publication Spotlight

Barley Yellow Dwarf (PPFS-AG-SG-03)

Barley yellow dwarf (BYD) is a virus disease that can cause serious yield loss when stunted and discolored plants are widely distributed in a field. Severe losses due to BYD occur state-wide about every five years or so, but individual fields are impacted to varying degrees each year. There are many diseases that can reduce wheat yields, but in the case of BYD, most of the disease management decisions (such as field selection, tillage practices, variety, and planting date) are made by the time the seed is actually sown in the fall.

This factsheet discusses symptoms and management.

Contact the Christian County Extension office to request a free copy - (270) 886-6328


University of Kentucky College of Agriculture Plant Pathology Extension

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PPFS-AG-SG-03

Plant Pathology Fact Sheet

Barley Yellow Dwarf

by Donald E. Hershman, *Extension Plant Pathologist*
and Douglas W. Johnson, *Extension Entomologist*

Importance

Barley yellow dwarf (BYD) is a virus disease that can cause serious yield loss when stunted and discolored plants are widely distributed in a field. Severe losses due to BYD occur state-wide about every five years or so, but individual fields are impacted to varying degrees each year. There are many diseases that can reduce wheat yields, but in the case of BYD, most of the disease management decisions (such as field selection, tillage practices, variety, and planting date) are made by the time the seed is actually sown in the fall.

Symptoms

The primary symptoms of BYD include plant stunting, reduced tillering, and a yellow (Figure 1) to red-purple (Figure 2) discoloration of leaf margins. Affected plants may have an unusually erect "spiked" appearance. Symptoms can occur in the fall or spring, but they more commonly occur in the spring on the top two leaves of plants. Foliar symptoms are frequently accompanied by secondary bacterial infections. These infections are visible as brown spots and streaks on BYD-symptomatic leaves. Virus-

Figure 1. Barley Yellow Dwarf yellowing symptoms

infected plants frequently occur in random, small groups and along the edges of fields; however, large portions of fields, even entire fields, can be affected in severe cases.

Disease Development in Relation to Aphid Biology

Barley yellow dwarf virus (BYDV) is transmitted from infected grasses into wheat and barley by several species of aphids. In the fall, the most important species are the bird cherry-oat aphid and, to a lesser extent, the corn leaf aphid (Figure 3). In the spring, overwintered bird cherry-oat aphids and

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USDA Sees Slow Growth in Vegetable Production

Vegetable Grower News, 02.20.24

U.S. production of vegetables and pulse crops is projected to grow just 4% from 2022 to 2033, according to the USDA's recently released long-term outlook report.

The growth, slower than the past decade, reflects rising import competition and technical measurement issues surrounding the rapid growth of greenhouses and urban vertical farms, according to the report. The protected culture subsector, which is gradually replacing field-grown production for several major fresh vegetables, is still not well-represented in traditional USDA data collection programs, according to the agency.

The total combined farm value of fruit, tree nuts, vegetables and pulse crop production is projected to reach $60 billion by 2033, up from $54 billion in 2022. By 2033, the value of fruit (citrus and noncitrus) will represent 41% of the total value of the category, tree nuts approximately 1%, and all vegetable and pulse crops roughly 44%, according to the USDA.

Combined production of fruit, tree nuts, vegetables and pulses is projected to grow slightly over the next decade, reaching 173 billion pounds by 2033, up from 166 billion in 2022. By 2033, fruit is projected to contribute 24% of the total output, tree nuts approximately 5%, and all vegetable and pulse crops roughly 71%.

The report forecasts a 14% decrease in total U.S. agricultural exports in 2024, or a drop to $169.5 billion from a record $196.1 billion in 2022. A "broad range of commodities" will see declines, according to the report, led by reductions in corn, soybeans and cotton.

Agricultural imports are forecast to post a record $200.0 billion in 2024 before slowing. The 2024 projection is up from the previous record of $195.4 billion in 2023 and driven by strong imports of the combined livestock, dairy and poultry category, processed grain products, sugar and tropical products, and horticultural products (especially fresh fruits and vegetables).

Vegetable breakdown

The vegetable category is split into five main groups: fresh, processing, potatoes, pulses and mushrooms.

Fresh-market vegetable production share is projected to decline from 32% in 2022 to 30% of vegetable production through 2033 as imports are expected to largely fill stronger demand through 2033. Processing vegetable production will remain steady around 29% over the 10-year period based largely on steady processing tomato output.

Potatoes are projected to account for 35% of vegetable production by 2033, up 1% from 2022, while pulse crops are projected to remain steady at 4%.

Despite increasing production of higher-priced vegetables such as romaine lettuce, broccoli and organic vegetables, the value of fresh-market vegetable production, including melons, is projected to decrease by 11% between 2022–33 as price pressure continues from strong import growth. The production value for fresh market vegetables will account for a 57% share of vegetable and pulse receipts by 2033, down from 62% in 2022, according to the report.

Key fresh-market vegetable production over the next 10 years includes lettuce, melons, onions, carrots and

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sweet potatoes. Within the lettuce subsector, steady growth is projected in romaine and field-grown leaf production while iceberg output declines. Field-grown iceberg lettuce share is expected to be limited by rising protected culture output and rising popularity of romaine lettuce. Production of onions is expected to remain steady.

Vegetables for processing currently account for about one-third of annual vegetable and pulse output. Tomato production, which accounted for 62% of processing vegetable production in 2022, is projected to increase to 66% by 2033, though processing tomato production is expected to fall during the next decade as yields drop and planted acres stabilize.

Potatoes are expected to account for 20% of vegetable farm value by 2033, a 1% increase from 2022. Projected potato production will increase 8% while value rises 3% over the 2022–33 baseline, according to the report.

Planted acres are forecast to decrease slightly in 2024, but total planted acres in the top 13 potato-producing states are forecast to remain flat through 2033. The long-term potato forecast assumes average weather and adequate water supplies, an upward yield trend and steady demand in the U.S. and abroad for processed potatoes.

Commercial domestic mushroom production is forecast to decline slightly in the next decade.

Domestic demand, limited export growth and rising productivity per acre have contributed to a slower rise in prices for vegetables used for processing compared to fresh market prices, according to the USDA. Comparing average price trends from 2022–2024 and 2031–2033, nominal processing vegetable prices are expected to rise about 14%, while constant dollar prices will drop 6%.

Potato Broccoli Soup

Cooperative Extension Service

INGREDIENTS

- 4 cups cubed potatoes
- 2 heads broccoli, (3-4 cups florets)
- 2 TBS olive oil
- 1/4 cup all-purpose flour
- 1/3 cup melted butter
- 3 cups 2% milk
- 1/4 tsp salt
- 1/2 tsp pepper
- 5 ounces cheddar cheese, reduced-fat, shredded
- 2 green onions, finely minced, divided
- 1/2 cup reduced-fat sour cream
- 1/4 cup bacon bits (optional)

DIRECTIONS

1. Preheat oven to 375 degrees F.
2. Place potatoes in large saucepan, cover with water and bring to a boil.
3. Reduce heat and cook potatoes until tender, about 15 minutes.
4. Cut broccoli heads into small florets and place on baking tray.
5. Drizzle with olive oil and roast for 15 minutes.
6. Drain cooked potatoes in a colander.
7. In the saucepan, combine the flour and melted butter; cook on medium heat for 1 minute. Slowly add milk to the mixture, stirring constantly until thickened.
8. Add the potatoes, broccoli, salt, pepper, cheese, half of the green onions and bacon bits.
9. Cook on low until heated.
10. A few minutes before serving, add the sour cream and stir to combine. Serve topped with remaining onions.

NOTES

Nutrition facts per serving: 390 calories, 24 g fat, 13 g saturated fat, 60 mg cholesterol, 370 mg sodium, 30 g carbohydrate, 3 g fiber, 9 g sugars, 15 g protein

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death in 399 BC by ingestion of a poison hemlock potion.

There have been some concerns expressed that toxicity such as dermal reactions may occur by simply being in proximity of poison hemlock plants. However, it is unlikely that most people will experience skin rashes who come in direct contact with poison hemlock as opposed to exposure to other plants such as wild parsnip or other potentially toxic plants within the carrot plant family Apiaceae.

If consumed, all classes of livestock are known to be affected by poison hemlock. Cattle, horses, and goats are considered to be the most susceptible domestic animals although other animals can be affected as well. Symptoms of poisoning can occur rapidly anywhere within 30 minutes to 2 hours depending on the animal, quantity consumed, and other factors. Initial symptoms can include nervousness, trembling, muscular weakness and loss of coordination, dilation of pupils, coma, and eventually death from respiratory paralysis. Lethal doses for cattle are considered to be in the range of 0.2 to 0.5% of the animal's body weight. Poison hemlock is also known to cause fetal deformation when pregnant animals consume the plant.

Fortunately, most animals tend to avoid grazing poison hemlock if other forage is readily available. However, animals may be more prone to consume green plants during the late winter and early spring when other forage species are more limited. Toxicity may be somewhat reduced in dried plants, but the potential for toxicity still exists, particularly when a sufficient quantity is consumed in dried hay. Therefore, extreme caution should be considered before feeding animals hay known to contain large quantities of poison hemlock. Also, animals may be attracted to consume poison hemlock when plants are treated with an herbicide.

Control

The principal strategy for poison hemlock control is to prevent seed production, which can be a challenge since a fully mature plant is capable of producing 35,000 to 40,000 new seeds. Once plants have produced flowers it is generally too late to utilize herbicide control methods. Whereas, mechanical control efforts (if feasible) such as mowing or cutting down individual plants should be initiated just before peak flower production to avoid or reduce the amount of new seed being produced.

As an overall strategy, make note of areas known to contain populations of poison hemlock and begin to look for emergence of new plants in the fall and during the winter months. Throughout the fall (October/November) or early spring (late February/March) is the best time of year for herbicide treatment. Herbicide products containing 2,4-D can be effective when applied to smaller, actively growing plants that are still in the younger rosette stage of growth. As plant rosettes become more mature, premixtures of products containing 2,4-D + dicamba, 2,4-D + triclopyr, or aminopyralid are needed for best results. Spot treatments with products containing 2,4-D, triclopyr, or glyphosate can also be used depending on the location. Always consult product labels for approved sites of application and for precautions that should be considered when applying herbicides.

Fig. 2. Mature poison hemlock plant (Photo: JD Green, UK)

The US Lost 1,600 Dairy Farms in 2023; See How the States Rank

Philip Gruber, Lancaster Farming, 02.21.24

The United States lost 1,600 dairies last year while keeping dairy production flat. The 6% decline in number of farms is similar to the rate from the past two years. In 2023, the largest declines in farm numbers occurred in states that have the most dairy farms.

Wisconsin lost 430 farms, falling to 5,920, but still has by far the most dairies, according to USDA statistics released Wednesday.

Second-place Pennsylvania lost 60 dairy farms, dropping it to 4,940, while No. 3 New York dropped 5% to 3,040 farms.

The largest percentage decline was in Michigan, which lost 16% of its dairies. That equates to 160 farms, bringing the state to 850.

The states with the most farms are the same as they were last year: Wisconsin, Pennsylvania, New York, Minnesota, Ohio, California, Michigan, Iowa, Indiana and Vermont.

The U.S. produced 226 million pounds of milk last year, basically the same as in 2022.

The ranking of the top 10 milk-producing states was unchanged from last year: California, Wisconsin, Idaho, Texas, New York, Michigan, Minnesota, Pennsylvania, New Mexico and Washington.

New York and Michigan both increased production by 3%, while Pennsylvania shed 1%, California 2% and New Mexico 7%.

Kentucky Dairy Industry is home to 45,000 milk cows and 70,000 heifers. Kentucky produces 926 million pounds of milk annually. There are more than 350 licensed dairy farms in KY - more than any other southeast state.