

Lyis: Hardy Pecans (*Carya illinoensis*)

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1 Introduction to *Carya illinoensis*

Contents

1	Introduction to <i>Carya illinoensis</i>	1
1.1	Description of the Plant . . .	1
2	History	1
3	Planting Outdoors	2
4	Ongoing Plant Care:	2
5	Winterizing	2
6	Growth Cycles	3
7	Harvesting Hardy Pecans	3
8	Uses of Pecans	4

1.1 Description of the Plant

Ultra Northern Hardy Pecans (*Carya illinoensis*) are robust and fruitful trees well-suited for colder climates. These deciduous trees are hardy from USDA Hardiness Zones 5-9, making them adaptable to a wide range of regions. They can reach impressive heights of up to 50 meters, providing ample shade and producing abundant harvests of delicious nuts. It is hardy to zones 5-9. It is in leaf from June to October, in flower from April to May, and the seeds ripen in October. The species is monoecious (individual flowers are either male or female, but both sexes can be found on the same plant) and is pollinated by Wind. While plant has both male and female flowers they open at different times so it is recommended to plant 3-5

for good nut production. Suitable for: light (sandy), medium (loamy) and heavy (clay) soils. Suitable pH: mildly acid, neutral and basic (mildly alkaline) soils and can grow in very acid and very alkaline soils. It cannot grow in the shade. It prefers moist soil. Pecans grown from seed will produce fruit in 10-15 years.

2 History

Historical Context and Edible Uses of Ultra Northern Hardy Pecans

Ultra Northern Hardy Pecans (*Carya illinoensis*) have a rich historical context deeply rooted in North America. Native to the continent, pecans hold a special place in the culinary traditions and cultural heritage of various indigenous tribes. Their delicious taste, nutritional value, and relative ease of shelling made them highly valued by Native Americans.

The word "pecan" originates from the Algonquin tribe's term "pacane," which signifies "nuts requiring a stone to crack." Native Americans cultivated and utilized wild pecans long before the arrival of European settlers. They incorporated pecans into their diet, used them for cooking and baking, and even made a fermented drink called "Powc-hicora" from them.

The cultivation of pecans by European colonists gained momentum in the late 17th and early 18th centuries. Spanish colonists established pecan orchards, and notable figures like George Washington and Thomas Jefferson planted pecan trees on their estates

in the late 1700s. As pecans became increasingly popular, their economic potential became evident.

In the 1980's some pecan enthusiasts brought some of the northers growing pecans from New Boston Illinois to Canada, where they are hardy to zone 5, and riped in mid October, and from their seeds come the ultra northern hardy pecans.

3 Planting Outdoors

Timing and Location: Plant live pecan seedlings in pots during the growing season, ensuring they have enough time to establish strong roots before winter. Choose a sunny location with well-drained soil.

Soil Requirements: Ultra Northern Hardy Pecans can tolerate a range of soil types, including sandy loam, clay loam, and other well-drained soils. The preferred soil pH is mildly acidic to neutral, but they can adapt to mildly alkaline or very acidic soils.

Spacing and Depth: Allow ample space between pecan trees for their extensive root systems to develop. Spacing requirements vary depending on the mature size of the cultivar, but a general guideline is to plant them at least 12-15 meters apart for optimal yield, though as close as 5m is permissible. Dig a planting hole that is wide and deep enough to accommodate the roots comfortably.

Transplanting: If the roots are growing through the fabric leave it on, be gentle handling the roots to keep them in tact. Place the seedling in the planting hole at the same depth as it was in the pot, ensuring the roots are spread out naturally. Backfill the hole with soil and gently firm it around the roots.

Mulching: Apply a layer of wood chips around the base of the tree to suppress weed growth and retain moisture in the soil. Additionally, consider planting spring bulbs around the base of the pecan tree as a natural method to suppress grass and provide additional beauty to the landscape.

Wildlife Protection: Protect young pecan trees from wildlife damage by installing fencing around the planting area. Companion plants like thistles can act as deterrents, keeping potential pests at bay. Like all *Carya* species pecans are resistant to animal browsing by working on a deep taproot for the first several years, so you may not see much hap-

pening above ground, but rest assured that in 3-4 years of good conditions they will begin to climb upwards as much as a meter per year until they reach adult height.

4 Ongoing Plant Care:

Watering: Pecan trees require regular watering, especially during dry spells. Water deeply, ensuring the soil is moist but not waterlogged. Monitor the soil moisture by checking the top few inches of soil. If it feels dry, it's time to water again. Adjust watering frequency based on weather conditions and the tree's water needs.

Fertilizing: Apply a balanced fertilizer formulated for nut trees in early spring, following the manufacturer's instructions. For young pecan trees, use a low-nitrogen fertilizer, high in phosphorous to encourage root development. As the tree matures, adjust the fertilizer application according to the specific nutrient requirements and consider the expected years to fruit production.

Pruning and Training: Pruning is generally not necessary for pecan trees unless there are damaged, dead, or crossing branches that need to be removed. Proper training in the early years can help shape the tree and encourage a strong framework.

Pests and Diseases: Monitor pecan trees for common pests like aphids, pecan weevils, and fungal diseases such as pecan scab. Implement integrated pest management practices and consider planting wildflowers or other native plants to attract beneficial insects that can help control pests.

5 Winterizing

While pecans are hardy to zone 5 and should do well even without extra protection when mature, younger plants are more sensitive and may need more precautions to improve survivability rates.

Preparing your Ultra Northern Hardy Pecan trees for the winter is essential to protect them from the harsh conditions of the northern climate. Proper winterizing techniques will help ensure their survival and promote healthy growth in the following seasons. Here are some important steps to consider:

1. **Mulching:** Apply a thick layer of organic mulch around the base of the pecan trees before the first frost. This will help insulate the soil, maintain moisture, and protect the tree's roots from extreme temperature fluctuations. Use materials like straw, wood chips, or shredded leaves, and spread the mulch in a wide circle around the tree, avoiding direct contact with the trunk.

2. **Watering:** Adequate soil moisture is crucial before winter sets in. Give your pecan trees a deep watering before the ground freezes to ensure they enter dormancy with sufficient hydration. However, be cautious not to overwater, as excessive moisture can lead to root rot. Monitor the soil moisture and adjust watering accordingly based on weather conditions.

3. **Pruning:** If you need to prune your pecan trees, do so during late fall or early winter when they are dormant. Remove any dead, damaged, or diseased branches to prevent the spread of diseases. Also, trim back any overly long or weak branches to help maintain the tree's shape and prevent snow or ice damage.

4. **Protecting the Trunk:** Wrap the trunk of young or newly planted pecan trees with a tree guard or burlap to protect against sunscald, freezing, and damage from wildlife. This protective layer shields the bark from extreme temperature fluctuations and reduces the risk of injury.

5. **Windbreaks and Snowdrift Management:** Consider planting windbreaks or erecting snow fences to create a barrier that helps reduce the impact of strong winds and drifting snow on your pecan trees. These measures can provide valuable protection and minimize winter damage.

6. **Insulating the Root Zone:** In colder regions, where the ground freezes deeply, consider insulating the root zone with a layer of organic material such as straw or hay. Apply it around the base of the tree, extending outwards to cover the area where the roots are likely to spread.

7. **Monitoring and Winter Checks:** Throughout the winter, periodically check your pecan trees for signs of stress, such as desiccated branches or excessive snow load. Brush off heavy snow accumulations gently to prevent branches from breaking. However, avoid excessive pruning or shaking as it may cause additional harm.

By taking these winterizing measures, you provide the necessary protection and care for your Ultra Northern Hardy Pecan trees during the harsh winter months. With proper winter preparation, your pecan trees will have a better chance of thriving and producing a bountiful harvest in the coming growing seasons.

6 Growth Cycles

Ongoing Care of Hardy Pecans:

Growth Cycles: Hardy pecans go through several growth cycles as they mature.

Taproot Development: After planting the pecan seedling, the taproot begins to develop. It takes approximately 1 to 4 years for the taproot to establish a strong foundation, ensuring the tree's stability and nutrient absorption.

Vegetative Growth: Once the taproot is well-established, the pecan tree will focus on above-ground growth. It will start developing branches, leaves, and a stronger trunk. This stage typically lasts for 3 to 6 years, depending on growing conditions.

Fruit Production: Pecan trees usually start producing fruit after 6 to 12 years, although this can vary depending on the specific cultivar and growing conditions. It's important to note that some pecan trees may take even longer to reach full fruit-bearing capacity.

7 Harvesting Hardy Pecans

Signs of Maturity: Pecans are ready to harvest when the outer husks or shucks split open and reveal the mature nuts inside. The shucks may turn brown or black, and the nuts should have a solid, filled-out kernel.

Harvesting Method: Harvesting pecans involves collecting the nuts from the ground once they have fallen naturally. This can be done by handpicking them or using tools such as pecan pickers or harvesters.

Post-Harvest Handling: After harvesting, remove the outer husks and clean the nuts to remove any debris. Store the pecans in a cool, dry place to maintain their freshness and quality.

8 Uses of Pecans

Pecans have a wide range of culinary uses and are highly valued for their rich flavor and nutritional benefits. Here are some common uses:

Snacking: Pecans can be enjoyed as a healthy and delicious snack on their own or mixed with other nuts and dried fruits.

Baking and Cooking: Pecans add a wonderful crunch and flavor to baked goods like pies, cookies, and cakes. They can also be used in savory dishes such as salads, roasted vegetables, and grain-based dishes.

Nut Butters and Spreads: Pecans can be ground into a smooth and creamy nut butter,

which can be used as a spread or in various recipes.

Candies and Confections: Pecans are often used in the creation of candies, pralines, and other sweet treats.

Remember to store harvested pecans properly to maintain their freshness and quality. They can be enjoyed year-round or used in various recipes to enhance both sweet and savory dishes.

By providing proper care, regular maintenance, and patience, you can enjoy a bountiful harvest of delicious pecans from your hardy pecan tree. Enjoy the process and the rewards of growing your own nutritious and flavorful nuts!