


Lyis: Korean Pinenut (*Pinus koraiensis*)

Nursery in Owen Sound, run by Andrii Logan Zvorygin a Ukrainian-Canadian

✉ lyis@liberit.ca  <https://lyis.ca> ☎ 226-537-0147

 LyisForestry

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1 Introduction to *Pinus koraiensis* (Korean Pine)

Contents

1	Introduction to <i>Pinus koraiensis</i> (Korean Pine)
1.1	Description of the Plant . . .
1.2	Historical and Cultural Context
1.3	Edible, Medicinal, and Useful Properties
2	Planting Outdoors
3	Ongoing Plant Care
4	Harvesting and Usage
5	Propagation
6	Recipes and Uses
7	Summary

1.2 Historical and Cultural Context

1 The Korean Pine has been revered in East Asia for centuries. In Korea and Manchuria, the nuts have long been used as a traditional food staple, often found in congee, pastries, and ceremonial dishes. The tree is also spiritually significant, symbolizing longevity, steadfastness, and wisdom. It is used in traditional medicine and forestry, particularly for rewilding deforested mountain slopes. In Russia, it's a key species in the Siberian taiga ecosystem and is considered a keystone for wildlife like bears and spotted nutcrackers, which play a role in its seed dispersal.

1.3 Edible, Medicinal, and Useful Properties

3 **Edible:** Korean pine nuts are among the largest and richest of all pine species, with a high oil content (over 70%) and nutty, buttery flavour. They are a significant source of protein, magnesium, zinc, and healthy fats—especially pinolenic acid, which may help suppress appetite and support cardiovascular health. The nuts are traditionally eaten raw, roasted, or added to rice, stews, and baked goods.

Medicinal/Utility: Pine resin and needles are used in traditional remedies for respiratory and inflammatory issues. The bark and needles can be brewed into teas with mild antioxidant properties. The timber, while not as commercially prized as other pines due to its relatively softer wood, is used locally for furniture, building material, and

1.1 Description of the Plant

Pinus koraiensis, commonly known as Korean Pine, is a majestic, slow-growing conifer native to the mountainous regions of northeast Asia, including Korea, northeastern China, eastern Russia, and parts of Japan. This long-lived evergreen can grow 20–30 metres tall with a broad, rounded crown. It features soft, flexible needles in bundles of five, typically 7–13 cm long, giving the tree a feathery, lush appearance. Cones are large (10–18 cm), cylindrical, and ripen over two years. Inside are large, edible seeds—Korean pine nuts—valued both for their culinary richness and reforestation potential.

firewood. The cones and bark also yield tannins and resin that can be used in natural dyeing or sealing.

Ecological Value: Korean Pine supports a wide variety of forest life. Its large seeds feed wildlife from squirrels to bears, while its deep roots stabilise soil and aid in forest succession. It's also a pioneer species in cold climates, aiding reforestation efforts across the Korean peninsula and northeastern China. The species is highly cold-tolerant (down to -40°C) and well-suited to high-latitude or high-altitude agroforestry systems.

2 Planting Outdoors

1. **Site Selection** — Prefers full sun to partial shade. Well-drained, slightly acidic loam is ideal. Tolerates poor, rocky soils once established.
2. **Spacing** — Plant at least 6–8 metres apart to allow room for mature crown development. Rows for nut production may be spaced more densely (5×6 metres).
3. **Soil Prep** — Loosen soil to 30 cm width, no deeper than the pot. Amend heavy clay with sand or compost. Avoid overly alkaline or waterlogged areas.
4. **Planting** — Dig a wide hole, place the seedling at original depth, backfill, and water well. Mulch lightly to suppress weeds and retain moisture.
5. **Pollination** — Korean pine is monoecious but benefits greatly from having multiple unrelated trees nearby for improved cone production. Wind-pollinated.
6. **Protection** — Use guards or fencing against deer and rodents. Saplings are especially vulnerable in their first 3–5 years.

3 Ongoing Plant Care

1. **Watering** — Keep soil moist but not saturated during establishment (first 2–3 years). Mature trees are drought-tolerant.

2. **Fertilisation** — Apply a slow-release, acidic fertiliser in early spring if soil is nutrient-poor. Avoid high-nitrogen fertilisers.
3. **Pruning** — Minimal; remove dead or crossing limbs in late winter. Train to a single leader if desired for symmetry.
4. **Pests/Disease** — Monitor for pine wilt nematode and scale insects. Healthy trees in well-drained soil are typically resilient.

4 Harvesting and Usage

- **Timeline:** Trees begin bearing cones around 15–20 years of age (earlier if grafted or in ideal conditions).
- **Harvest Method:** Cones mature in the second autumn. Either hand-pick mature cones or wait for natural drop. Allow to dry and open, then extract seeds.
- **Storage:** Dry seeds thoroughly and store in cool, dry, airtight containers. For long-term use, freeze in sealed bags.

5 Propagation

- **From Seed:** Seeds require stratification—store in moist sand at $2\text{--}4^{\circ}\text{C}$ for 90–120 days. Sow 2–3 cm deep in spring.
- **From Grafts:** Grafting onto vigorous rootstock can hasten nut production. Side veneer or whip grafting is common.

6 Recipes and Uses

Roasted Korean Pine Nuts: Roast at 170°C for 10–12 minutes for rich, buttery flavour.

Congee Garnish: Traditional use in Korean rice porridge. Add whole or crushed nuts for protein and flavour.

Pine Nut Cookies: Blend with honey, oat flour, and eggs for nutrient-dense, sweet treats.

Pine Needle Tea: Simmer fresh young needles in water for 10 minutes. Rich in vitamin C and flavonoids.

ity, herbal medicine, and long-term timber value. Though slow to establish, it rewards patience with abundant ecological and human benefits, making it an ideal legacy tree for northern food forests and resilient farms.

7 Summary

Korean Pine is a cold-hardy, multipurpose tree offering nutritious nuts, rewilding capac-