

Lyis: *Maclura pomifera* (Osage Orange / Hedge Apple)

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1 Introduction to *Maclura pomifera* (Osage Orange / Hedge Apple)

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1.1 Description of the Plant	
<i>Maclura pomifera</i> is a thorn-armed, deciduous tree native to the south-central United States. On favourable soils it reaches 8–15 m in height with a broad, rounded crown and milky sap. Simple, glossy leaves (5–12 cm) turn clear yellow in autumn. The species is <i>dioecious</i> : male and female flowers occur on separate trees in late spring. Female trees bear grapefruit-sized, knobbly drupes (8–15 cm Ø) that mature green-yellow in early autumn—often called “hedge apples.”	
	Highly valued by the Osage Nation for superior bow-making wood, the tree was dubbed “Bois d’Arc” (bow-wood) by French explorers. In the 19 century it gained fame as the “Osage living fence”—thousands of kilometres were planted at 30 cm spacing to form impenetrable, thorny hedgerows across the American Midwest before barbed wire existed. Its rot-resistant timber later became the gold-standard for fence posts and tool handles.
	1.3 Edible, Medicinal, and Useful Properties
	Edible? The fruit pulp is largely <i>inedible to humans</i> ; latex may irritate sensitive skin. Squirrels relish the seeds which are edible, but pulp is fibrous and toxic.
	Medicinal & Traditional Uses Folk practice boiled chips for a mild yellow dye and insect-repelling wash. Modern lab work notes anti-fungal isoflavones in the wood.
	Utility:
	• Timber — Janka hardness 5 700 N, among North America’s toughest; heartwood bright golden-orange, weathering to brown; unsurpassed for ground-contact posts (50 + year service life).
	• Fuelwood — 32 MJ kg ^{−1} (similar to coal), burns hot with little ash—excellent for efficient stoves.

- **Hedge/Shelterbelt** — Fast juvenile growth, dense thorny branches, wind-breaks, wildlife cover.
- **Pollinator support** — Nectar and pollen for early summer insects. Fruit provides late-season wildlife forage.

2 Polination

Osage Orange (*Maclura pomifera*, seed-grown) Planting & Use Guide

Trees Planted	Chance of at Least 1 Female	Chance of Fruit (if mixed sex)	Years to First Fruit
1	~50%	✗ Likely none (if male)	8–10 years
2	~75%	⚠ Possible (if 1M + 1F)	8–10 years
3	~88%	✓ Moderate	8–10 years
4	~94%	✓ Good	8–10 years
5+	97–99%	✓✓ Excellent	8–10 years

3 Planting Outdoors

1. **Site Selection** — Full sun; tolerates a wide pH (5.5–8.0) and soils from sand to clay if drainage is fair. Hardy to -35°C (USDA zone 4).
2. **Spacing**
 - *Timber orchard*: 4 m \times 4 m.
 - *Living hedge*: 0.3–0.5 m between whips in a single row.
3. **Soil Preparation** — Loosen top 30 cm; incorporate 5 cm compost for establishment—tree is nitrogen-efficient and drought-tough once rooted.
4. **Pollination** — Plant at least one male for every 8–10 female trees within 30 m if fruit is desired (e.g. wildlife mast or seed production).
5. **Companion Planting** — Good along field margins with black locust, mulberry, or serviceberry; avoid shading delicate understory crops due to dense canopy.

4 Ongoing Plant Care

1. **Watering** — 10 L weekly during first summer; after year 2 survives long droughts unaided.

2. **Mulching** — 6 cm wood chips suppress weeds and speed root establishment.
3. **Pruning / Training**
 - *Timber form*: Single central leader; remove lower limbs gradually.
 - *Hedge*: Top at 30–40 cm during year 1; thereafter clip annually to force dense branching.

4. **Pest & Disease** — Remarkably resistant; minor webworm or scale rarely warrants action.

5 Harvesting and Usage

- **Fruit** — Collect October–November for decorative use or seed extraction; wear gloves (latex). Compost pulp or leave for wildlife.
- **Timber** — Fell in winter when sap is low; air-dry under cover (12–24 months / 25 mm thickness) to minimise checking.
- **Dye wood chips** — Simmer 100 g chips L^{-1} water 1 h; strain and use hot with alum-mordanted fabrics for fast yellow dye.

6 Propagation

- **Seed** — Extract seeds, cold-stratify 60 days at 4°C ; sow 1 cm deep, germination 70–80 %.
- **Cuttings** — Semi-hardwood cuttings in midsummer under mist; rooting 6–8 weeks with 2 000 ppm IBA.
- **Grafting** — Rarely needed; scion on seedling rootstock for named thorn-less male clones.

7 Caution & Myths

Though sometimes claimed to repel spiders and cockroaches, scientific trials show only

mild effectiveness from the fruit's peel oils. Use as décor or livestock enrichment balls, not human food. Handle latex with care if prone to skin sensitivity.

8 Summary

Tough, adaptable, and multi-purpose, Osage Orange excels as a living fence, high-BTU firewood, and source of legendary bow-wood—all while shrugging off pests and drought. Plant it where thorns and vigorous suckering are assets, and it will guard, shelter, and fuel your homestead for generations.