



BOTANICAL SHAKESPEARE **PLANTING INFORMATION:**

The Tempest

ACORN – *Quercus* spp.

Zones 4 – 10. Acorns are woody, hard or leathery nuts (fruits) of oak trees, each containing a single seed. On Oak trees they are borne in small cuplike structures—hence acorn-cups. When ripe in autumn, acorns drop to the ground. Some germinate to become seedling Oak trees that take many years to mature, up to 150 ft. Important food for squirrels & other wildlife, and if treated to remove tannins are edible for people! (see Oak below for how to grow!)

APPLE – *Malus* spp. including crab apples, cider apples

Zones 3 – 8. Height 10 – 25 ft. or more. This flavorful fruit grows on trees, best cultivated in well-drained fertile soils in full sun. Plant bare-root stock from late fall to early spring; container stock in winter. Dig a large hole, tease and spread roots, backfill, firm and water. The soil surface should expose the graft union (a bump) on the lower stem. Prune weak or crossing branches. Pink-and-white spring blossoms are pollinated by bees; fruit sets within a few days. Can be started from seeds (7 – 10 years till fruiting), but any future fruit is seldom like the original. Countless varieties; most ripen in late summer & fall.

ARABIAN TREE – *Acacia senegal* [syn. *Senegalia senegal*] gum Arabic, gum acacia

Zones 10 – 12. Grows 20 – 35 ft. tall. Deciduous Arabian tree, an African *Acacia* species, has branches low on the trunk, armed with hooked thorns. In the dry season, stems are tapped to harvest the sap, gum Arabic. Tolerates very poor, rocky soil with extremely deep roots to tap scarce water. Light green leaves are pinnately compound, sometimes spiny along the stem. Rounded spikes of lightly fragrant, yellowish-white flowers bloom in winter, followed by flat, papery pods that split to reveal 3 – 6 seeds each. Start from seeds, scarified or soaked overnight to soften the skins or root stem cuttings. Some scholars consider that Shakespeare was referring to myrrh (*Commiphora myrrha*) as Arabian Tree.

BARLEY – *Hordeum vulgare*

Zones 8 – 10. Grows 2 – 4 ft. tall. This grain crop is an annual, cool-season grass that can be started from seed early in the year for a spring crop or in fall for a winter crop. It takes 60 – 70 days till harvest. Provide well-drained, fertile loam or light clay soils. Tolerant of alkaline soil. Fall-sown crops are valuable as green winter mulch. Barley beer was developed by the ancients & barley water is used as a health tonic. The straw is saved for animal bedding.

BRIER/S – *Rosa* (rose), *Smilax* (catbrier), *Rubus* (raspberry), *Ulex* (gorse).

Zones 3 – 10. 10 – 25 ft. Briers (briars) are shrubby plants equipped with thorny or prickly stems, and often leaves too. Excellent for hedging to keep out intruders, man or beast. Edible rose hips. Plant in a sunny location in well-drained, fertile soil. Enrich with compost; mulch until established. Prune to encourage dense new growth. To remove dig deep roots out fully.

BROOM – *Cytisus scoparius*

Zones 4 – 9. 3 – 6 ft. This deciduous European shrub retains evergreen stems. It grows all year long and often becomes invasive, also spreading by seed. It is cultivated for its bright yellow pea flowers. Start from seeds, soaked overnight. Full sun, well-drained acid to neutral soil is appropriate. In years past its bushy stems were collected and used as long-handled brooms to remove dirt and dust. Today long-handled brooms are made of stiff fibers from corn stalks or husks, palm leaves, plastic, hair etc.

CEDAR – *Cedrus* spp. Atlas cedar, Deodar cedar, cedar of Lebanon

Zones 5 – 9. Grows 50 – 130 ft. tall. Evergreen trees with needlelike leaves and woody female cones. They are medium- to fast-growing trees, excellent as windbreaks. Find a spot with plenty of vertical and horizontal space; avoid overhead wires, etc. as cedars have wide-ranging roots. Select a full sun or part shade location with free-draining, fertile, neutral soil. Container-grown plants are best. Dig a hole twice the size of the root ball, tease & spread out the roots, then backfill, tamp, and water well. Soil level should be at the tree collar; insert a stake for support.

CORN – (WHEAT). *Triticum aestivum*, common wheat, and other species

Zones 7 – 10. Types of annual grass, 2 – 4 ft. tall, grown for their high carbohydrate seeds (grain) consumed as a staple cereal and ground for flour worldwide. Thrives in full sun in average well-drained soil. Winter wheat is sown 6 – 8 weeks prior to the ground freezing and is harvested the following summer. Spring wheat is sown as soon as the soil is workable in early spring for harvesting in mid – late summer.

COWSLIP – *Primula veris* Bunch of keys, milk maidens

Zone 3 – 8. Grows 6 – 9 inches. In the wild, perennial cowslips often grow in cow pastures and damp meadows. It displays nodding clusters of primrose yellow, tubular flowers, attractive to spring pollinators. Provide full or part sun with average or heavy, organic soil; intolerant of constant wet feet.

Divide established plants in fall. Start seed in fall; overwinter outdoors to break dormancy, protected from critters. Plant out seedlings or plugs 6 – 8 inches apart in spring. Self-seeds.

CRABS (-APPLE) *Malus* spp. Crabapples, crab- tree

Zones 4 – 8. Most varieties grow less than 20 ft. This rounded tree prefers well-drained fertile soils in full sun. Dig a deep hole for the root ball and double its width. After planting, backfill and tamp soil to firm; water thoroughly. Pink-and-white spring blossoms are pollinated by bees. Countless varieties; most ripen fruit in late summer and fall. A valuable pollinator for other apple crops. Prune in late winter to remove dead, damaged or diseased branches, and shape.

DOCKS – *Rumex obtusifolius*. Bitter dock, broad – leaf dock. *R. crispus*, curly dock

Zones 4 – 7. Grows 1.5 – 5 ft. tall. This European native perennial is widespread and often invasive in crop lands & waysides, spreading mainly by way of copious seeds & very deep, aggressive roots. Removal by deep digging is effective. The leaves & roots have been used medicinally for generations; the young foliage was collected extensively for food during the Depression, and as a salad currently. Foliage soothes the results of stinging nettles. Start from seed or divided established plants.

FILBERT – *Corylus americana* Hazel nut

Zones 4 – 9, native to eastern and central United States; multi – stemmed shrubs to 10 ft. tall or more, with a crown to 12 ft across; plant in spring or fall in full to part sun in moist, well-drained soil; fruits (filbert or hazel nuts) ripen in late summer and attract seed-eating birds.

FURZE/S & GOSS – *Ulex europaeus* and other spp. Gorse, goss, whin

Zones 6 – 10. Grows 4 – 15 ft. tall and wide. Gorse is widespread in the UK, in Northern Europe and in some U.S. states also; a serious pest in NZ. It is a more or less evergreen shrub with reduced, very spiny leaves & bright yellow pea flowers, slightly fragrant of coconut. The saying goes that “...when gorse is not ablooming, kissing’s out of fashion”. Pollinated by bees, in spite of the lack of nectar. Fruit borne in hairy ¾ inch pods. Nutritious for horses & cattle.

GRASS – members of the Poaceae family

Zones 1 – 11. Numerous species of grass and sedges comprise grass lawns. Ideally, mow regularly to 2.5 inches; *do not allow* to flower & seed. Evergreen or deciduous, annual or perennial, start plants from seed or weed-free sod, in well-drained average soil in locations according to species. Appropriate types(for a Shakespeare plot) include fescues, honey-stalks, & stover.

HEATH – *Erica carnea* and other spp. Winter or Spring heath, Ling.

Zones 5 – 7. Grows 6 – 12 inches tall & wide. Shrubby evergreen with needlelike leaves that spreads along the ground. Valuable as a ground cover in sun with good drainage. Prefers acid soil; amend with

peat moss or acid fertilizers. Best to get nursery-grown plants and plant 18" apart. Never dig from the wild. Abundant pinkish-lavender flowers; white is rare & considered very lucky. Bees are the predominant pollinators & the honey is prized. Increase by layering cuttings. May be confused with heathers (*Calluna*).

IVY – *Hedera helix* English ivy

Zones 4 – 9. Grows 20 – 80 ft. Lush and beautiful but also potentially invasive & weedy, this evergreen thrives in part to full shade as well as full sun. It is aggressive and grows rapidly either upright as a vine or as a groundcover, especially cultivated for winter garden interest. The plants root at the leaf nodes. Countless cultivars, some suitable for topiary, house plants, hanging baskets etc. Plant young rooted cuttings from containers; propagate by cuttings or layering.

LINE (Lime) – *Tilia cordata* and other spp. Little-leaf linden, basswood, bee-tree.

Zones 3 – 8. 60 – 80 ft. tall. Fast growing native, valued as a shade tree in full or part sun, with a wide-spreading root system. Not particular about soil pH. Deciduous, heart-shaped, 3-inch leaves are deep green and shiny. Abundant clusters of strongly fragrant, lime-colored flowers droop from subtending leaf stalks from late spring into midsummer. Often planted by beekeepers, as pollinating bees produce flavorful honey from the flowers. Requires little pruning, but remove basal suckers to maintain tree form, rather than a clump.

MALLOWS – *Malva neglecta* and other spp. Cheeseweed.

Zones 4 – 8. 6 – 24 inches tall. This native clump-forming annual or biennial can become a bad weed with deep taproots. The plants mucilaginous sap and have been used by generations as a demulcent herb as a remedy for inflammation. 5 – or 7 – lobed leaves are edible if insipid tasting, but highly nutritious. Start seed directly in rich, well – drained soil in a sunny position. Thin to 1 – 2 ft apart. Pink or white, 2 – inch, 5 – petaled flowers, like small hollyhocks, bloom from spring to early fall. Add to pollinator gardens.

MUSHROOM – fungus, fungi, toadstools

Chlorophyll-free mushrooms come in different shapes, typically a stalk capped with a disc. Mushrooms are fleshy, spore-bearing (fruiting bodies) of fungi. They grow from spores borne beneath the cap on translucent gills. Mature spores are shed & feed on soil, rotting organic matter or a particular substrate. The spores develop spawn, that produces white, threadlike mycelium. Buy a mushroom cultivation kit or purchase spawn & inoculate straw or the selected substrate. Often found growing in circles (fairy rings) echoing the cap shape. Possibly 10,000 or more species, some rare, some common, some poisonous, some edible. Colors vary from tan, white or brown to orange or red with white spots. Highly nutritious; valued in gourmet cooking.

NETTLE – *Urtica dioica* Stinging nettle, common nettle

Zones 3 – 10. 3 – 7 ft tall. This self-seeding, difficult-to-remove perennial often grows as an invasive weed of arable land, in damp hedgerows, open woods & disturbed soils. Divide established clumps in fall or start from seed in late winter. Best in moisture-retentive soil in sun or part shade. Drooping clusters of separate male & female flowers erupt from the leaf nodes. Slightly prickly, fibrous stems bear pairs of arrow-shaped notched leaves. Sharp stinging hairs (trichomes), that inflict a nasty burning sensation followed by a rash, arm the undersides (quickly soothes by crush Dock leaves which usually grow nearby as well as camomile or mallow). Highly nutritious and often used as a medicinal herb.

NUTSHELL. The hard, outer covering (pericarp) of the kernel (meat) of a true nut: “a simple, dry fruit with a single seed”.

The kernel of hazel nuts is covered with a rigid, inedible nutshell, made from cellulose and lignin, not living wood. *Corylus avellana*, *C. americana* Hazel nuts **Zones 4 – 9**, 10 – 20 ft tall.

Hazelnut trees should be grown 15 – 18 ft. apart in a sunny position with well-drained soil. You need 2 specimens to produce the nuts. They can be started outdoors from nuts in fall to germinate the following spring. Otherwise plant bare-root or container plants; dig a large enough hole to accommodate teased & spread roots, backfill, firm & water well.

OAK – *Quercus* spp.

Zones 4 – 10. 100 – 150 ft. Long-lived, mostly deciduous trees with acorn fruits. Provide well-drained fertile soil in sun or light shade; tolerates lime. To start young seedlings, bury acorns 1 inch deep in well-drained soil; keep moist, protected from critters. Germination takes 4 – 6 weeks; grow on seedlings for a year. Prepare a wide but not deep hole, spread the roots, backfill, tamp & water well. Prune to shape & remove dead, damaged or diseased wood when dormant.

OATS – *Avena sativa* Common oat, sowans

Zones 6 – 9. Annual grass, 2 – 5 ft. tall, grown for its high-quality protein seeds (grain) consumed as a staple porridge or cold cereal, used in beer brewing worldwide, or fed to cattle. Thrives in part sun to part shade in well-drained soils. Helps to control soil erosion; winter cover crop planted with legumes in late winter. Its allelopathic qualities hinder weed germination. Plant for a late summer crop in fall or for summer forage crops in early spring. Seed germinates best at 40° F or warmer. Threshing separates seeds from chaff.

PEAS (Peascod, Peasblossom, Squash) – *Pisum sativum* green peas

Zones 2 – 9. Grows 2 – 8 ft. Annual peas grow on vines. The seeds (peas) are enclosed in edible or inedible pods, according to the variety. Soak dry seeds overnight, then sow 1-inch deep and 2 inches apart in rows 12 – 24 inches apart outdoors as soil becomes workable. Provide a sunny location with free-draining soil; amend with compost, wood ashes and bone-meal to improve fertility. Install supports (pea sticks) at planting time.

PIG-NUTS – *Conopodium majus* Pignut, earthnut, ground nut, amut

Zones 6 – 9. European perennial, 6 – 12 inches tall, with umbels of delicate white flowers in late spring reminiscent of wild carrot (which can be poisonous) and Queen Anne's lace. Seeds ripen in mid to late summer. The "nuts" are underground tubers of this herb; edible, raw or cooked, usually brown with a taste somewhat like hazelnuts. Foraged by wild pigs. In the wild, find plants in dappled woodland shade, hedgerows and fields, where soil is acid. Start from seed with protection and plant out in early summer. Divide in late summer.

PINE – *Pinus* spp.

Zones 2 – 10. Average height 150 ft. Native from the Tropics to the Arctic, cone-shaped, evergreen trees with bluish-green needlelike leaves, 2 – 5 to a bundle. Male and female plants separate. Seeds contained in scaly, woody cones; deeply fissured, thick tree bark. Provide full sun and well-drained average soil. Plants slow from seed; usually bought container-grown. Dig a hole somewhat deeper than the root ball and add a thin layer of good topsoil. Remove plant from container, tease any circling roots, and set the root ball in the hole with the top at ground level. Fill in with soil, tamping down gently as you go. Water thoroughly after planting.

REEDS – Species of *Arundo*, *Phragmites*, *Phalaris*, *Calamagrostis* and others.

Zones 5 – 9. Slender, hollow-stemmed, grassy plants, 3 – 20 ft. tall, often found in swampy areas and bogs. Many have plume-like spikes of flowers. Choose a sunny or partially sunny spot with moisture retentive soil for container-grown plants. Cut down in spring as growth commences. Stems used in thatching & cut for use in musical wind instruments. Sometimes refers to a youngster's thin, squeaky voice.

RYE – *Cecale cereales*. Winter rye

Zones 3 – 7. Grows 3 – 6 ft. tall. Rye is a European bunch grass cereal crop, used as a winter cover crop (green manure), pasture or hay; a small percentage of crops are cultivated and ground for rye flour (rye bread) or alcoholic beverages. Hardier and taller than wheat, with hairy blue green leaves, plant rye in fall to overwinter and produce seed in spring. Easily grown in gardens from seed sown 6 – 8 inches apart in winter or early spring. Tolerates poor soils, drought, and acid soils, but not poor drainage. Often planted with legumes as a cover crop; allelomorphic rye keeps weeds down naturally. Do not confuse with ryegrass (*Lolium*).

SAFFRON – *Crocus sativus* Fall-blooming crocus, saffron crocus

Zones 6 – 9. Saffron crocuses grow from corms, planted in late summer for autumn bloom. The 3 – 4 inch tall lavender flowers will bloom within a few weeks, and each flaunts three bright red, strands – like stigmas (pistils). These are harvested individually and used as an exclusive spice to add aroma, color & flavor to sweet & savory dishes (& hair dye in the 16th c.!). As soon as the corms are available, plant them pointy side up, in a sunny, well-drained spot. The strappy foliage remains green till they yellow next spring. Keep dry through summer.

SEDGE – *Carex* spp.

Zones 6 – 9. Grows 8 – 36 inches. Perennial, cool-season grass lookalikes, many of the 2,000+ easy-care sedges have found homes in residential gardens in sun and shade according to species. Most prefer fall planting. Transplant pieces of mature plants or plant from containers; tease and spread out the roots. Backfill and firm so that the soil is at ground level; water thoroughly before applying a mulch. Sedges are identified by their sharp-edged, solid, triangular stems. Grow sedges for their tufted or rhizomatous habit, strap-like, slender or broad leaves in greens, blues & tans, textured or smooth, some variegated, or with interesting seed heads. Excellent as a lawn substitute.

STOVER (Grasses)

Refers to the remains of leaves, husks and stalks of grasses and cereals, left behind after grain has been mowed by combine harvesters. In particular it refers to remnants of sorghum, soybeans, and especially maize (corn) plants after the ears have been removed. Stover is used as poor quality animal feed for livestock, or as a soil amendment. Today it is used as energy for biofuels.

THORNS

Sharp, pointy projections from the branch of a plant, the purpose of which is to protect the plant from being eaten by herbivores. They are extensions or modifications of leaves, roots, stems or buds. Thorny species often bear showy flowers or bright berries, especially Roses (in Shakespeare's case).

VETCHES – *Vicia sativa*, *V. villosa* and other species. Common vetch, hairy vetch

Zones 3 – 8. 1 – 2 ft. tall. A winter or summer annual. Start seed with winter grain crops or in spring for summer crops. Vetches are in the pea family, and bear nitrogen-fixing bacteria in root nodules. To improve the quality of the forage, to decrease erosion, and to raise the soil's nitrogen content, various vetches seeded along with wheat & grain crops. Grown together they are effective for animal feed and as a winter cover crop.

VINE – *Vitis* spp. Grapevine (most probably)

Zones 4 – 9. Grapes grow on woody deciduous plants that climb to some 25 ft. or so. Fruit is borne on new growth, so spur prune routinely when plants remain dormant in early spring. Select a variety according to its ultimate use. Grapes grow readily in containers or in the ground, indoors through the winter or outdoors year-round. Well-drained, loamy soil in full sun is perfect. Plant bare-root or from containers in early spring; soak plants overnight prior for best results. Prune out all but the strongest shoot, then dig a large hole, spread out the roots, backfill, firm & water well. A support or stakes can be inserted at planting time. Grapes can also be grown from seeds or from cuttings from late spring to late summer.

WHEAT – *Triticum aestivum*, common wheat, and other species

Zones 7 – 10. Types of annual grass, 2 – 4 ft. tall, grown for their high carbohydrate seeds (grain) consumed as a staple cereal and ground for flour worldwide. Threshing separates seeds from chaff.

Thrives in full sun in average well-drained soil. Winter wheat is sown some 6 – 8 weeks prior to the ground freezing; harvested the following summer. Spring wheat is sown as soon as the soil is workable in early spring for harvesting in mid-late summer. Takes 10 days to germinate.

