JAPANESE YEW

Taxus cuspidata Siebold & Zucc.

Plant Symbol = TACU

Description
General: Yew family (Tacaceae). Yews (*Taxus* sp.) are a group of evergreen shrubs and trees that are common in landscaping and horticulture in North America and elsewhere. The English yew is famous for being the stock for the legendary English longbow that helped win the battles of Hastings and Agincourt. Unfortunately the yew is also one of the most toxic of all poisonous plants and has been responsible for numerous deaths of livestock and even humans.

Japanese yew is a shrub or small tree typically growing less than 2 meters in height (USDA-NRCS, 2017), though in its native conditions it may achieve a maximum height of 10 meters (Missouri Botanical Garden, 2017). The leaves (needles) are 2 to 3 cm long and abruptly acute on the tip. The leaves are dull green above and have 2 yellowish bands on the underside. The fruit is a fleshy red cone (aril) approximately 12 mm thick.

Distribution: Japanese yew was introduced from Asia, and is currently grown as an ornamental shrub and recommended in USDA hardiness zones 4 through 7. For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site.

Habitat: In its native range, Japanese yew occurs in mixed conifer and conifer-deciduous forests in lowland to lower montane altitudes from 100 m to 1,600 m in China, Korea and Japan. It grows on a variety of soils derived from granitic, schistose or serpentine base rocks (Katsuki and Luscombe, 2013).

Adaptation
Japanese yew is advertised for drought resistance and shade tolerance, as well as its ability to not be affected by air pollution or smog (fast-growing-trees.com, 2017). This species is cold hardy to -30° F (USDA-NRCS, 2017), and is recommended for use in USDA hardiness zones 4 through 7 (Missouri Botanical Garden, 2017). It is adapted to soils with a pH range of 5.3 to 7.8 (USDA-NRCS, 2017).

Uses
Landscaping: Japanese yew is an attractive dense shrub, and its cold and shade hardiness make it popular for landscaping.

Planting Guidelines
In the nursery trade Japanese yew is commonly propagated via cuttings (PLANTS, 2017). Plants are typically bought potted and transplanted into landscaping.

Management
Japanese yew is very popular for its low maintenance in landscaping. Trimmings should be carefully discarded in a location and manner where animals are unlikely to find them in order to avoid accidental poisoning.

Pests and Potential Problems
There are no serious insect or disease problems associated with Japanese yew. It can be susceptible to winter burn, particularly in exposed sites. Twig blight and needle blight are occasional problems, and root rot may occur in poorly-drained soils. Weevils, mealy bugs and scale are problems in some areas (Missouri Botanical Garden, 2017).

Environmental Concerns

All species of yew are highly toxic; so much so that in legend even the shade of a yew tree was considered dangerous to anyone who might sleep underneath one (Voliotis, 1986). Very little material is needed to cause severe illness or death. It takes only 0.04 to 0.1% of an animal's body weight in fresh plant material to be lethal in horses or cows (Burrows and Tyrl, 2001). In adult humans, 50 to 100 grams of yew leaves are enough to be fatal (Frohne and Pribilla, 1965). All parts of the plant, including dried leaves and wood and berries are toxic. House pets can become ill from chewing on branches (Evans and Cook, 1991), and birds have been killed by eating the berries (Shropshire et al., 1992).

Yew poisoning is most common among livestock and wildlife in winter when the evergreen foliage is more attractive. Although yew leaves are typically considered to be of low palatability because of the volatile oils present, animals will eat the leaves readily, especially in winter when other forage is less available (Burrows and Tyrl). In 2017, deep winter snows throughout Idaho forced elk and pronghorn into more residential areas where they consumed fatal amounts of yew. Approximately 50 pronghorn were killed near Payette, seven elk were killed near Boise and an additional eight elk died in Idaho Falls, all after eating Japanese yew (Associated Press, 2017). Cattle have also been poisoned when yew branches have been clipped and the trimmings were left for the animals to feed on (Panter et al., 2014).

Chemicals found in the yew tissues affect the animal's heart function, and death occurs due to cardiac failure. Unfortunately, signs of yew poisoning may only exist for several minutes prior to sudden death (Burrows and Tyrl, 2001). The lethal dose is so small that animals typically eat much more than required to cause death, and even when the cause is known, it is often too late for treatment.

Although yew plants are available from several nursery sources, planting yew bushes should be avoided even in areas not typically associated with wildlife. If existing plants are destroyed, the material should be placed in landfills where it is unlikely to be eaten by animals. Contact your nursery, state Fish and Game department, or the NRCS Plant Materials Center for alternative species.

Seeds and Plant Production

Yew seed has a dormancy that can be overcome with a warm-plus-cold stratification. It is recommended to store the seed for 150 to 210 days at 65° F, then for 60 to 120 days at 36 to 41° F prior to sowing (Bonner and Karrfalt, 2008). Japanese yew can be propagated by rooting cuttings with the aid of rooting hormones (Boner and Karrfalt, 2008).

Cultivars, Improved, and Selected Materials (and area of origin)

There are numerous cultivars and sources available commercially. Cultivars should be selected based on the local climate, resistance to local pests, and intended use. Consult with your local land grant university, local extension or local USDA NRCS office for recommendations on adapted cultivars for use in your area**.**

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