

'GOLDEN' CHINQUAPIN

INFORMATION FOR NURSERY GROWERS

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ESTABLISHMENT OF SEED ORCHARDS

Spacing

Foundation stock of 'Golden' chinquapin may be planted for seed production in strips, or in blocks. Individual plants should be spaced 10 feet apart in rows, with 15 to 20 feet between rows, depending on the types of cultural operations practiced at your nursery. This will require a maximum area of 100'x100' for an orchard of 50 trees.

Site Requirements

Although 'Golden' chinquapin is adapted to a wide range of site conditions, wetter soils should be avoided. It can be grown on most soil textures except heavy clays. However, well-drained medium to fine textured soils are best suited for growing chinquapin. Sunny to semishady sites are preferred over completely shady sites. Root pockets should be avoided.

Isolation

To insure the cultivar remains true, and seedlings produced from seed can be sold as 'Golden' chinquapin, a minimum isolation distance of 900 feet should be maintained between a certified seed orchard of 'Golden' chinquapin, other chinquapins, and mature plants of Castanea species, with which it may hybridize. This includes Chinese chestnuts, Japanese chestnuts, European chestnuts, American chestnuts, and the various species of chinquapin.

In selecting a site, some general isolation principles should be followed where possible. Isolation can be enhanced by taking advantage of the prevailing wind direction. Barriers using other plant species and border rows will help dilute contaminating pollen, further reducing the chance of crossing with another variety or species.

Planting Seedlings

When planting 'Golden' chinquapin, begin by removing sod and weeds from a circle two feet in diameter. Make a slit or hole in the center of the circle and place the roots in it to the same depth they were rooted at the Plant Materials Center. Firm the soil around the roots and water immediately. Then mulch around the plant, using pine needles, grass, woodchips, or similar material. Watering at the time of planting and mulching are very important to insure good seedling survival for chinquapin.

Several weeks after planting, sprinkle a handful of 10-10-10 fertilizer around the plant at least one foot from the base. Transplants often grow slowly the first year. But, once established, they will reach a height of five feet in three or four years. Plants on fertile, well-drained sites may produce some nuts as early as the second year or third year.

Cultural Practices

Chinquapins prefer a well-drained, acid (pH 5.5-6.0) soil. Frost pockets should be avoided. Fertilization, cultivation, use of herbicides, and mulching is essentially the same as for other temperate climate crops. Pruning, in the early years, should only be enough to develop a single trunk and basic scaffold. Excessive pruning of young trees delays the onset of bearing.

HARVESTING AND STORAGE OF NUTS

Fresh chinquapins contain 40-45% carbohydrate, mostly in the form of starch, about 5% oil, 5% protein, and 40% moisture. They are highly perishable because they lose water rapidly at normal room temperature and humidity, causing the kernel to become hard and incapable of germinating. Numerous fungi and bacteria attack the nuts, causing decay and spoilage.

Nuts should be harvested at least every other day. High temperatures, as a result of remaining in the sun, cause rapid kernel deterioration. The nuts should be stored at 32-40°F under conditions of high humidity but no free moisture. A practical method for storing small quantities of nuts is to mix the freshly harvested nuts with dry peat moss in plastic bags, close the bags, and refrigerate. Properly stored, they will keep satisfactorily for several months without sprouting.

Traditionally, nuts have been gathered from the ground after they fall. This is time consuming and exposes the nuts to predation. Small quantities of burs can be picked or knocked down with sticks at the time the first burs crack open. Unopened burs stored in a humid, cool (55-65°F) location will continue to mature and open in a week. Stout gloves are needed to handle the spiny burs.

PROPAGATION FROM SEED

Seedlings of 'Golden' chinquapin are easily propagated, using nuts collected from foundation stock plants. Nuts are planted in early fall soon after the first killing frost, but before the ground freezes. This would be early November at most locations. Nuts can be planted in a prepared bed using conventional nursery procedures. Sterilizing the soil will help control weed competition in the spring.

At some locations where rodent predation is a problem, rodent repellants will be required to treat the seed prior to planting. Mulching with clean straw will prevent the bare soil from crusting over during the winter and reduces soil erosion. Once the seedlings germinate, it can be removed. However, it will aid in soil moisture conservation and weed control, if not removed.

Chestnut seeds require a moist cold treatment of at least one to two months at 32-40°F to insure good, uniform germination. However, in contrast, nuts of the chinquapin species may germinate immediately when mature.

Stored nuts should not be subjected to temperatures much below freezing (irreversible damage begins to occur around 24°F) or above 45°F. Planting should be done in

a light, high organic content, well-drained soil. If the nuts are kept too moist they will rot and if too dry, they will not germinate.

Planting depth is 3/4 to one-inch. This will result in more than 90 percent germination. Seed held over until the spring sprout during the winter and dry up. When planted, less than 50 percent of these develop into seedlings. One year old seedlings reach 12 to 16 inches in height.

ESTABLISHMENT OF WILDLIFE PLANTINGS

Chinquapins may be planted as solitary plants, in strips, or in blocks. They can be planted either alone or in combination with other trees and shrubs. In open areas, they can be used as a specimen planting in residential lawns, or as an understory plant in oak/pine woods.

Individual plants should be spaced 10 to 15 feet apart and from any other trees or shrubs with which they may be planted. When used in combination with other species, 'Golden' chinquapin should constitute no more than 10 percent of the total planting either in number of plants or number of species. The total number to be planted on any area will depend upon the size of the area to be planted.

The site requirements and planting methods for making wildlife plantings remain the same as establishing plantings for seed orchards.