Ag and Agribusiness Institute

Chestnut Orchard Design

Cultivars, layout, and spacing

Cultivars

A diverse selection of cultivars should be planted to ensure adequate pollination and mitigate risks associated with monoculture production. The two most popular primary bearing cultivars are 'Colossal' and 'Bouche de Betizac', both of which are pollen sterile. The two most common pollinizer cultivars are 'Precoce Migoule' and 'Labor Day' which are also able to pollinize each other. Some growers are also mixing in multi-use cultivars like 'Maraval', 'Marsol', and 'Marigoule' which show promise as nut bearers, pollinizers, and timber trees. In terms of orchard planning, 'Maraval', 'Marsol', and 'Marigoule' should be treated as pollinizers in the layout of trees.

Layout

There are a number of considerations when laying out a chestnut orchard, but the most important consideration is wind direction. Chestnut trees are wind pollinated, requiring the layout ensure that pollinizer trees be placed upwind from the primary bearing (pollen sterile) trees. Pollinizers should be interplanted to ensure they too are able to receive adequate pollen as they are not self-fertile.

Spacing

Trees planted too close eventually develop poor health and undesirable shapes. As crowding occurs, nut production and quality will be reduced. Growers are encouraged to consider planting trees 25-30 feet apart to avoid crowding and tree removal, but ensure adequate pollination. This wider spacing will mean fewer nuts during the early years of the orchard, but will avoid the expense of tree removal or losses due to shading and competition.

Trees per acre based on tractor row width and tree spacing

Tractor row width (ft.)	Tree spacing (ft.)	Trees per acre
30	30	48
25	25	70
30	20	73
20	20	109

Carefully consider what is adjacent to the planting to ensure an adequate buffer zone. This will prevent shading or nuts dropping onto neighbors property.

For more information, visit www.chestnuts.msu.edu

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Orchard Layout

Fill in the following information

Orchard size

Tree spacing

Cultivar selection:

Bearer A

Bearer B

Pollinizer 1

Pollinizer 2

Growers may choose to add additional cultivars. If they are pollen sterile, they should be treated like bearing trees. Trees that produce pollen should be integrated as pollinizers

Example of a standard chestnut planting

Row 1	Row 2	Row 3	Row 4	Row 5	Row 6	Row 7
Precoce Migoule	Colossal	Bouche de Betizac	Precoce Migoule	Colossal	Bouche de Betizac	Precoce Migoule
Labor Day	Colossal	Bouche de Betizac	Labor Day	Colossal	Bouche de Betizac	Labor Day
Precoce Migoule	Colossal	Bouche de Betizac	Precoce Migoule	Colossal	Bouche de Betizac	Precoce Migoule
Labor Day	Colossal	Bouche de Betizac	Labor Day	Colossal	Bouche de Betizac	Labor Day
Precoce Migoule	Colossal	Bouche de Betizac	Precoce Migoule	Colossal	Bouche de Betizac	Precoce Migoule
Labor Day	Colossal	Bouche de Betizac	Labor Day	Colossal	Bouche de Betizac	
Precoce Migoule	Colossal	Bouche de Betizac	Precoce Migoule	Colossal	Bouche de Betizac	Precoce Migoule

Wind Direction

Fill in the table below, based on your selections. (1 acre, 30'x30')

Row 1	Row 2	Row 3	Row 4	Row 5	Row 6	Row 7