EM 8641
Revised August 1997

Advanced Hazelnut Selections

OSU244.001

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OSU244.001 is a hazelnut selection developed by Oregon State University. This genotype is precocious, and is more productive and has a smaller tree size than 'Barcelona.' Harvest is later than 'Barcelona,' and the nuts have fewer defects.

Horticultural characteristics

Tree growth habit. OSU244.001 has a somewhat horizontal growth habit, yet has vigorous upright branches ("octopus arms" growth habit) (Figure 1). Tree size is slightly more than half the size of 'Barcelona' as measured by the trunk cross-sectional area (Figure 4). These trees should be well-suited for higher density orchards. OSU244.001 has a tendency to crop heavily and bear biennially; therefore, pruning is needed to maintain a balance between shoot growth and nut production.

Flowering characteristics. Female flowers bloom later than those of 'Barcelona.' The incompatibility alleles are S_1S_3. The recommended pollinizers are 'Casina' and 'Hall's Giant.'

Yield and yield efficiency. This selection has had yields similar to 'Barcelona' in the first 4 bearing years (Figure 5). However, OSU244.001 is a more yield-efficient tree than 'Barcelona' since more nuts are produced with respect to tree size (Figure 6). More of the tree's resources are used to produce nuts and less are used to develop leaves and wood.

Harvest time. Nut clusters contain 3–5 nuts (Figure 2). Although the husk is long, nuts fall freely. The harvest period is protracted, with about 50 percent of the nuts dropping at the same time as 'Barcelona' and 95 percent dropping by the next week.

Nut and kernel quality. OSU244.001 nuts (Figure 3) were about three-fourths the size of 'Barcelona' nuts in 1996. Only 8 percent of the nuts had defects, compared to as high as 16 percent for 'Barcelona.' The percent kernel of OSU244.001 is 3 percent greater than 'Barcelona.' Kernel quality is excellent, with good texture, flavor, and near complete blanching.

Propagation. OSU244.001 has been easy to propagate using the "tie-off" method and has performed well in the nursery. Layers are vigorous and well-rooted.

Pest tolerance. The eastern filbert blight screening results of this selection have been conflicting. After the first year of screening, OSU244.001 appeared to have tolerance similar to that of 'Willamette' and 'Hall's Giant.' The second trial indicated a higher level of susceptibility. Further testing is in progress. Big bud mite tolerance is comparable to 'Casina.'

Development

OSU244.001 was selected from progeny of a cross of OSU17.028 ('Barcelona' x 'Tombul Ghiaghli') and 'Willamette.' The cross was made in 1981 by Dr. Maxine Thompson at the Smith Vegetable and Hazelnut Research Farm. The data in this publication were obtained from an advanced selection trial established in 1990 at the Smith Farm.

Figure 1.—Tree growth habit.

Figure 2.—Nut cluster.

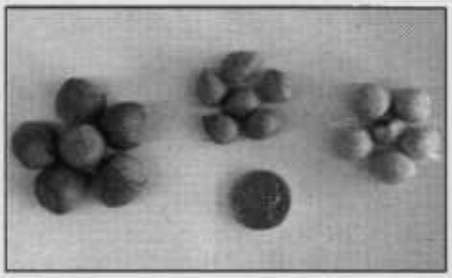

Figure 3.—Nuts, raw kernels, and blanched kernels.

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OREGON STATE UNIVERSITY EXTENSION SERVICE

OSU244.001

Flowering characteristics

Incompatibility alleles: S_1S_3
Time of female flower bloom: later than 'Barcelona'

Pollinizer recommendations

'Hall's Giant' (S_5S_{15})—two-thirds of the pollinizer trees
'Casina' ($S_{10}S_{21}$)—one-third of the pollinizer trees

Estimated time of harvest

1 week after 'Barcelona,' around the time of 'Ennis'

Nut and kernel quality (1996)

	'Barcelona'	*OSU244.001*
Nut weight (g)	4.1	3.0
Kernel percentage	42	45
Blanching rating (1–7; 1=100% removal of pellicle)	4.2	1.4
Nuts free of defects (%)	84	92

Pest tolerance

Eastern filbert blight: Needs further testing
Big bud mite: Comparable to 'Casina'

Anticipated release date

December 1998 (after additional production and eastern filbert blight resistance data are available)

Notes:

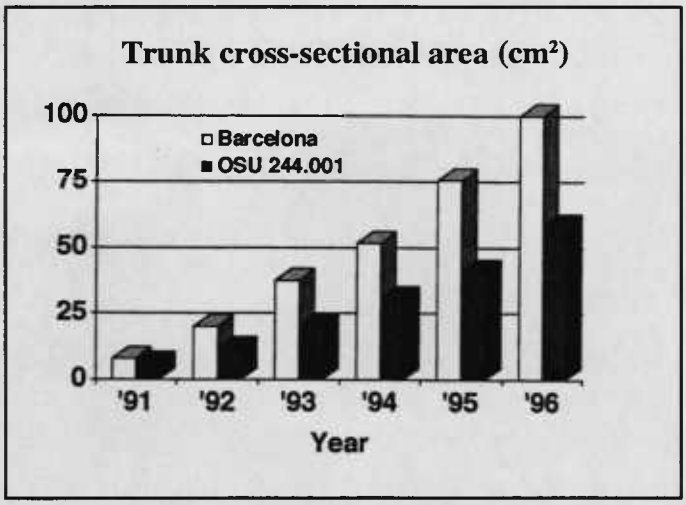

Figure 4.—Trunk cross-sectional area.

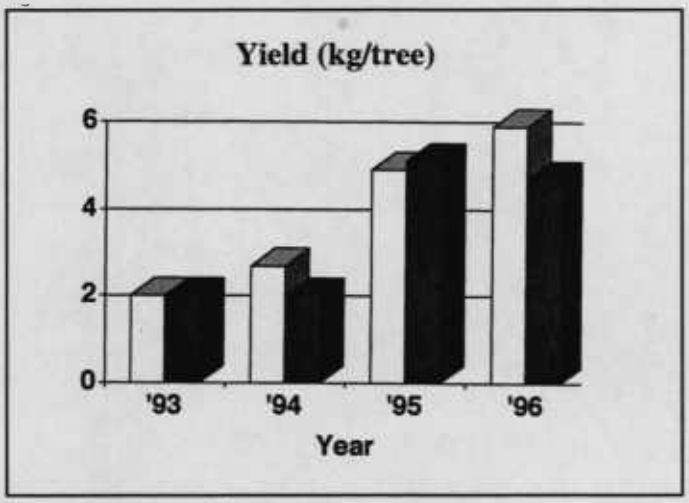

Figure 5.—Nut yield.

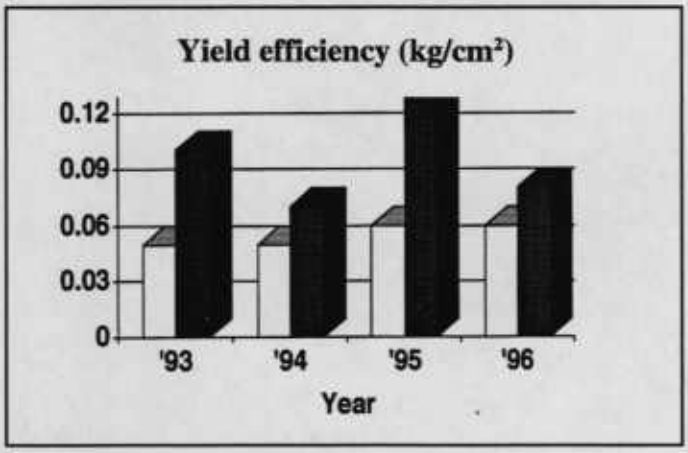

Figure 6.—Yield efficiency.

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