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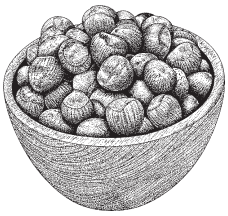
Revised May 2002



Hazelnut Cultivar

'Lewis' (OSU243.002)

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'Lewis' is a hazelnut cultivar developed by Oregon State University and released in January 1997. This cultivar is precocious, and it is more productive and has a smaller tree size than 'Barcelona.' Harvest is earlier than for 'Barcelona,' and the nuts have fewer defects.

Horticultural characteristics

Tree growth habit. 'Lewis' is a "grower-friendly" tree, with a good balance between vegetative and reproductive growth (Figure 1). It can be managed much like a 'Barcelona' tree. Tree size is approximately 75 percent of 'Barcelona,' as measured by the trunk cross-sectional area (Figure 4).

Flowering characteristics. Female flowers bloom at the same time as 'Barcelona.' The incompatibility alleles are S_3S_8. The recommended pollinizers are 'Tonda di Giffoni' and 'Hall's Giant.'

Yield and yield efficiency. This selection has out-yielded 'Barcelona' in the first 4 bearing years, and yields were similar in 1997 (Figure 5). Also, 'Lewis' is a more efficient nut producer than 'Barcelona' because yields are greater and tree size is smaller (Figure 6). Therefore, 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 3–4 nuts (Figure 2). Nuts are free-husking and ready to harvest 5–7 days earlier than 'Barcelona.'

Nut and kernel quality. 'Lewis' nuts (Figure 3) are smaller than 'Barcelona.' Only 17 percent of the nuts had defects in 1997, compared to 28 percent for 'Barcelona.' Most of the defects of 'Lewis' are shriveled, poorly filled, or moldy nuts. In 1997, only 1 percent of the nuts were blanks, in contrast to 8 percent for 'Barcelona.' The percent kernel is 4–5 percent greater than 'Barcelona.' Raw kernels have very little fiber. The kernels blanch slightly better than 'Barcelona' and have good flavor and texture.

Propagation. 'Lewis' has been easy to propagate by the "tie-off" method. Layers are well rooted and vigorous.

Pest tolerance. One of the major strengths of this cultivar is its tolerance to eastern filbert blight. Its tolerance to the pathogen is better than 'Willamette' and 'Hall's Giant.' Big bud mite tolerance is comparable to 'Casina.'

Development

'Lewis' 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. Preliminary analysis of the performance of the genotype began in the seedling row, and in 1988 it was identified as a promising selection. An advanced selection trial was established in 1991 at the Smith Farm. The data presented in this report were obtained from that trial.

Figure 1.—Tree growth habit.

Figure 2.—Nut cluster.

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

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‘Lewis’

Flowering characteristics

Incompatibility alleles: S_3S_8
Time of female flower bloom: similar to ‘Barcelona’

Pollinizer recommendations

‘Hall’s Giant’ (S_5S_{15})—half of the pollinizer trees
‘Tonda di Giffoni’ (S_2S_{23})—half of the pollinizer trees

Estimated time of harvest

5–7 days earlier than ‘Barcelona’

Nut and kernel quality (1996 and 1997)

	‘Barcelona’		*‘Lewis’*	
	1996	*1997*	*1996*	*1997*
Nut weight (g)	3.8	3.5	2.9	2.7
Kernel weight (g)	1.7	1.4	1.4	1.2
Kernel percentage	43	41	47	46
Blanching rating (1–7; 1=100% removal of pellicle)	4.1	3.6	3.3	2.8
Nuts free of defects (%)	85	72	90	83

Pest tolerance

Eastern filbert blight: more tolerant than ‘Willamette’ and ‘Hall’s Giant’
Big bud mite: comparable to ‘Casina’

Released January 1997

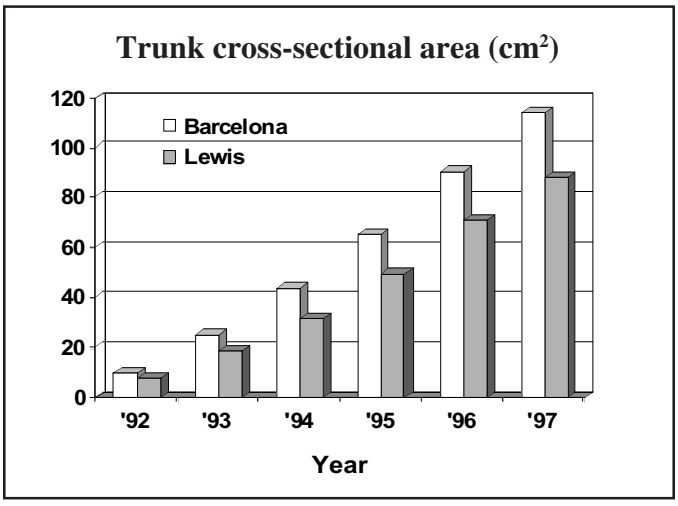

Figure 4.—Trunk cross-sectional area.

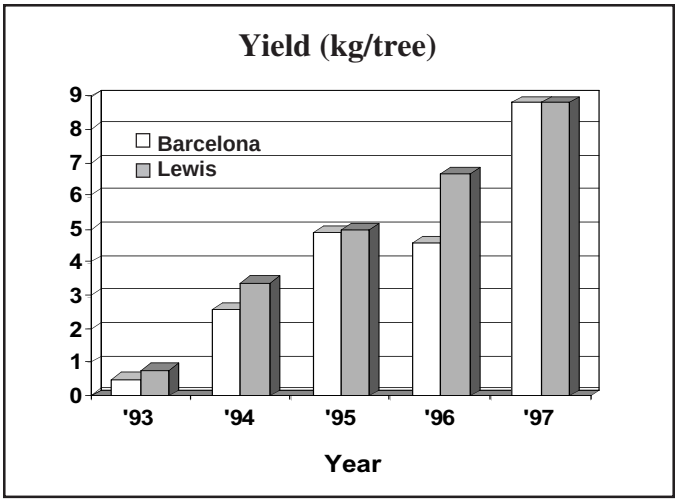

Figure 5.—Nut yield.

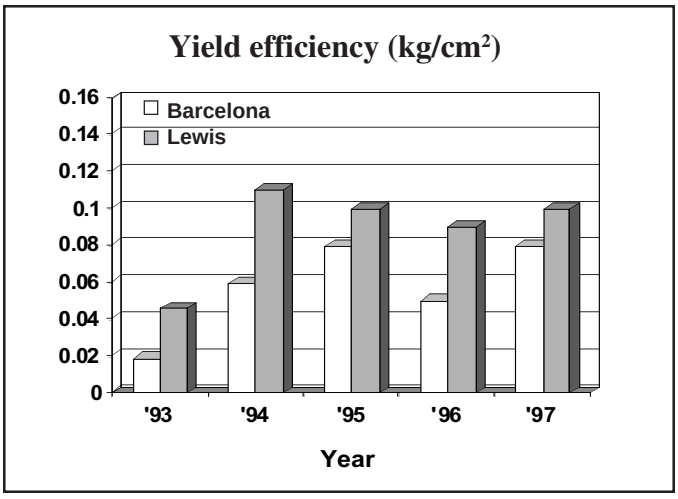

Figure 6.—Yield efficiency.

Notes

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Revised March 1999. Revised May 2002.