The flowers of Blackamber are not self-fertile and require a pollinizor. It is intercompatible with Friar and, in normal years, blooms with Friar. Blackamber trees are upright in growth habit and of average vigor. Blackamber is recommended for areas where Japanese-type plums can be grown.

Limited amounts of budwood may be obtained from David Ramming, U.S. Horticultural Field Station, P.O. Box 8143, Fresno, CA 93747.

Ennis — A Large Filbert[1]

H. B. Lagerstedt[2]

Ennis is a round nut that is larger and more productive than the standard main crop cultivar Barcelona. The latter has been the major cultivar planted in the Pacific Northwest since the turn of the century and now represents about 85% of the filberts produced. Barcelona has served the industry well, but it has several faults that are absent in Ennis. Barcelona may produce as high as 20% blanks (empty shells), is highly susceptible to "Brown Stain," a physiological disorder, is strongly biennial bearing, and has certain unattractive shell and kernel characterisitcs. Ennis is being planted as rapidly as trees become available from nurserymen and should prove to be a great improvement over Barcelona.

ORIGIN

Ennis is one of five "grower selections" that were brought to the attention of personnel of the Oregon State Extension Service, the Agricultural Experiment Station, and the USDA. Six Ennis trees were brought to Oregon from Washington about 1940, their parentage and source unknown. No other trees of this cultivar have been discovered in either Washington or Oregon orchards.

In 1960 Mr. Andrew Loughridge of Sherwood, OR brought the cultivar to the attention of Mr. Lloyd Baron, Washington County Agent, who subsequently increased the tree by grafting. In 1970, Ennis entered USDA/AES replicated variety trials.

TREE AND BEARING CHARACTERISTICS

Young Ennis trees are semi-erect, but old trees are round-headed. Limb growth tends to be twiggy and more compact than that of Barcelona. Hardiness, vigor, transplanting survival and ease of propagation of Ennis have all been rated as good as or better than Barcelona. Ennis is not immune to the big bud mite, *Phytocoptella avellanae* Newkirk and Kiefer, but it appears to have some tolerance.

Ennis is a high-yielding cultivar and bears most of its nuts on small-sized folwer clusters occurring on catkin peduncles, in contrast to Barcelona, the nuts of which are borne on large-sized flower clusters occurring on vigorous stem growth. It has less of a tendency toward biennial bearing than has Barcelona. Ennis nuts mature slightly later than those of Barcelona. The nuts at maturity are enclosed in a very short husk and are free-husking. The Ennis peduncle is the shortest of any commercial culti-

[1]Contribution of Agricultural Research, Science and Education Administration, U.S. Department of Agriculture in cooperation with the Agricultural Experiment Station, Oregon State University, Technical Paper No. 5157 of the latter.

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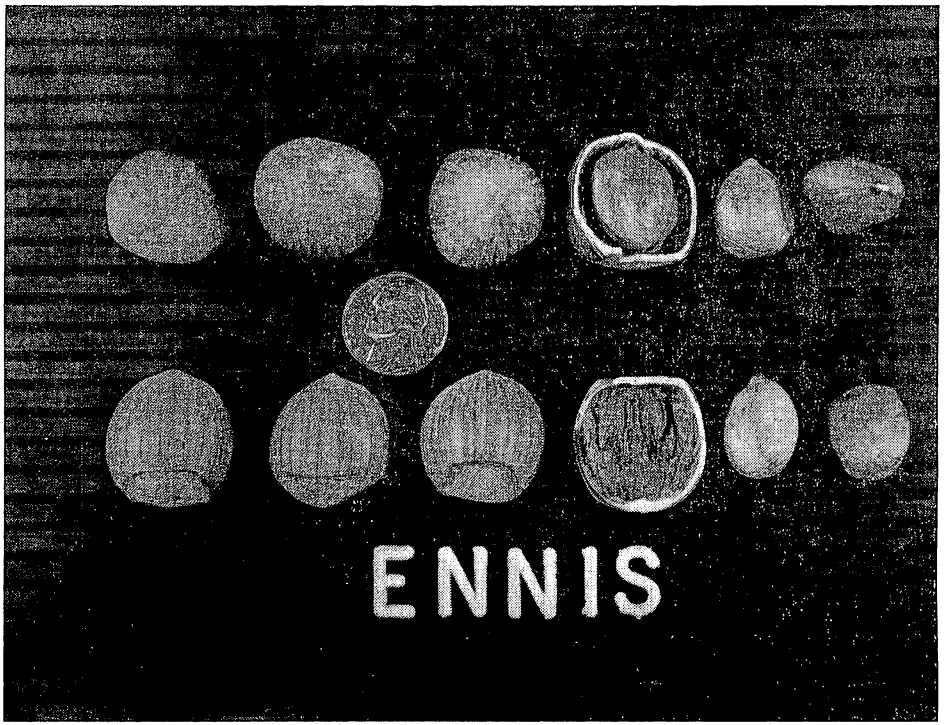

Figure 1. Nut and kernel of the Ennis filbert. This round nut is larger, lighter in color and cleaner in appearance than Barcelona which it is expected to replace in new plantings.

var, making the husk nearly sessile. Ennis catkins are small and produce a large amount of defective pollen. The viable pollen of Ennis is not compatible with Barcelona so it should not be considered as a pollinizer for the latter. Compatible pollinizers for Ennis are Butler, Daviana, Hall's Giant, Jemtegaard #5, Royal, Nonpareil, and Fitzgerald 20.

NUT CHARACTERISTICS

Ennis nut clusters are small, having mostly one or two nuts. This permits each nut to have a very uniform shape. The round nut has a distinct point, is obviously striped, and has a large basal scar (Fig. 1). The shell has a medium to light brown color and is not excessively hairy. Nut size has ranged up to 30% larger than that of Barcelona. A 100-nut sample of Ennis will range in weight from 400 to 430 g, whereas that of Barcelona will range from 320 to 340 grams. Upon grading, Ennis kernels are large, long and pointed, rather than round, mostly due to shrinkage during drying. This shrinkage contributes to a few irregularly shaped kernels. Some of the inner ovary wall may adhere to the kernel, but not as much as with Barcelona. Percent kernel by weight ranges from 46 to 48% as compared to 43 to 45% for Barcelona. Blanks range from 1 to 4% as compared to 10 to 20% for Barcelona. Flavor is good and is improved by roasting. The pel-

licle adheres to the kernel following dry roasting, a disadvantage when compared to Barcelona which has an easier loosening pellicle.

AVAILABILITY OF TREES

Nurserymen are in the process of building their stocks of this cultivar and already have orders through 1985. There is an adequate supply of scionwood, but nurserymen do not produce grafted trees. Neither the Oregon Agricultural Experiment Station nor USDA produces trees for sale.

Due to the amount of time required for proper testing and evaluation of filbert trees, it is not anticipated that another important cultivar will be available in the trade for 10 to 15 years. Thus Ennis should demand an ever-increasing place in new plantings.

Butler — A Filbert Pollinizer[1]

H. B. LAGERSTEDT[2]

Butler is being introduced as a pollinizer for Barcelona and Ennis. It will replace Daviana, which is now the principal pollinizer grown in the Pacific Northwest. A new pollinizer has been sought for over 30 years because Daviana has several serious faults; it is highly susceptible to the big bud mite, *Phytocoptella avellanae* Newkirk and Kiefer, causing a serious reduction in nut yield; it has a thin shell which make the nuts especially attractive to birds and rodents and causes further reductions in yield; and it has a long shape that is undesirable to the trade. Since the inshell trade utilizes a round nut, Daviana nuts must be screened out and cracked for kernel use. Butler does not overcome all of the disadvantages of Daviana, but it does represent a considerable improvement.

ORIGIN

The Butler cultivar is a seedling selection discovered by Mr. Joseph C. Butler in his orchard at Wilsonville, Oregon. The characteristic that first made it noticeable was its productivity. It was brought to public attention in 1959. Before that, Mr. Butler had propagated 11 trees by rooting suckers arising at the base of the parent tree. In 1970, Butler was planted in the USDA/AES replicated variety trials as one of several grower selections.

TREE AND BEARING CHARACTERISTICS

Butler nuts are free-husking and have a husk slightly longer than the nut. The period of nut drop is long, beginning before and ending after that of Barcelona. Catkins are large and productive with much viable pollen. This pollen is compatible with Barcelona, Ennis, and several other cultivars. Yield is as good, or better than that of Barcelona, and far superior to Daviana, which it replaces. Butler is biennial bearing in habit. Young trees are erect and vigorous, as evidenced by long, upright shoots. As the tree begins bearing and slows its vegetative growth, it becomes more round-headed; however, it never droops or weeps as is the habit of some filbert cultivars.

Butler proved to have outstanding hardiness during a December 1972 freeze. With little cold acclimation,

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