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Hazelnut Cultivar "McDonald"

*EASTERN FILBERT Blight (EFB), caused by the fungus *Anisogramma anomala*, poses a serious threat and imposes a significant added cost to hazelnut production in the Willamette Valley, where the majority of US hazelnuts are produced. The hazelnut cultivar (variety) developed at Oregon State, named 'McDonald', is from a cross of 'Tonda Pacifica' and 'Santiam'. The advantages of 'McDonald' is in its resistance to EFB, infrequent nut defects and early nut maturation. The moderately vigorous trees, similar in size to 'Lewis' and 'Jefferson', have a desirable growth habit and size. The kernels blanch easily and have excellent flavor and texture. 'McDonald' is well-suited for the blanched kernel market, for use in chocolate products, baked goods, and other premium-priced food items containing nuts.*

TECHNOLOGY DESCRIPTION

'McDonald' inherits a gene from the cultivar 'Gasaway', which confers a high level of resistance to EFB; trees remain mostly free of EFB, with only a few cases of small cankers under high disease pressure having been observed to date. Additionally, 'McDonald' is resistant to bud mites (primarily *Phytoptus avellanae* Nal.) and has very few moldy kernels. Its nuts mature two weeks earlier than 'Barcelona', increasing the chance that they can be harvested before fall rains begin, reducing cleaning and drying costs to growers. Nuts are smaller in size than 'Barcelona' and 52% kernel by weight, higher than most other hazelnut cultivars. As a result, 'McDonald' has a high kernel yield, early harvest, high resistance to EFB, and excellent eating quality.

STATUS

A U.S. Plant Patent application has been-submitted for 'McDonald'

Applications

- Blanched kernel market
- Chocolate products
- Baked goods

Features & Benefits

- Excellent texture and flavor, small kernel size, and kernel quality merit a premium price
- Resistance to bud mites and EFB, and low incidence of kernel mold
- Trees have a desirable growth habit and level of vigor





About the Principal Investigators

SHAWN MEHLENBACHER

(1) Academic/Professional: Shawn Mehlenbacher earned his Ph.D. in Plant Breeding at Cornell University in 1982 after graduating from Pennsylvania State University in 1978 with a B.S. in Horticulture. Mehlenbacher has held tree crop breeding responsibilities at Oregon State University Department of Horticulture since 1986, beginning as an Assistant Professor and since 2000 serving as an Oregon Hazelnut Industry Professor.

(2) Research: Shawn Mehlenbacher's research consists of plant breeding and genetics. His efforts are in identifying sources of resistance to eastern filbert blight (EFB) as well as DNA markers linked to new sources of resistance. This in turn enables him to develop new cultivars for Oregon's hazelnut industry with a focus on a resistance to EFB and suitability for the kernel market.

DAVID C. SMITH

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