New lentil being readied for market

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"Essex," a new lentil variety developed by Agricultural Research Service (ARS) scientists, has a lot to offer: high seed yields for growers, nitrogen-fixing bacteria for wheat crops, and a tasty source of protein for consumers to add to soups, salads and other fare.

George Vandemark, a plant geneticist who leads the ARS Grain Legume Genetics and Physiology Research Unit in Pullman, Wash., developed Essex in collaboration with Fred Muehlbauer, now retired from ARS, and Kevin McPhee, a pulse crop breeder at North Dakota State University's Department of Plant Sciences in Fargo.

Essex was chosen for public release based on its outstanding performance in advanced yield trials conducted over the past couple of years in Washington State, Idaho, North Dakota and Montana. In 2008, the four states combined produced an estimated $87 million worth of lentils, about 78 percent of which was exported.

During trials, Essex averaged 1,220 pounds of seed per acre, which is 21 percent more than Eston and 22 percent more than Athena, two leading commercial varieties that the researchers used for comparison. Plants of Essex matured at about the same time as Eston and produced small seeds with yellow interiors and green coats. Besides protein levels of 20 to 30 percent by dry weight, the seeds are high in fiber, minerals and vitamins.

Essex also enjoys a symbiotic relationship with beneficial soil microbes-specifically, root-colonizing *Rhizobium* bacteria, whose ability to take nitrogen from the atmosphere and turn it into a form plants can use for

growth helps naturally replenish the soil's fertility for subsequent crops of wheat and other grains. Other benefits of using lentils as a rotation crop in small-grain cultivation systems include reduced soil erosion, improved weed control and reduced disease severity and incidence.

Derived from conventional breeding, Essex is intended for production in the Pacific Northwest and Northern Plains, with primary markets in Mexico and other Latin American nations anticipated.

Essex may be ready for sale to growers in 2011. Further details will be published in an upcoming issue of the *Journal of Plant Registrations*.

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