An introduction to the AVONDALE Lentil

After years of developing a new variety of green lentil, Dr. Rebecca McGee, a plant geneticist at the USDA-ARS legume research lab at Washington State University has completed the certification process for the lentil formally known as “LC01602300R.” The newly branded “Avondale” lentil, named after a small ghost town in the northeast corner of Montana, a region well suited to grow this particular lentil, may soon be available to purchase through your local crop improvement channels.

AVONDALE WAS INITIALLY CONCEIVED FOR THE SOLE PURPOSE OF IMPROVING THE DISEASE RESISTANCE OF THE RICHEA LENTIL. RICHEA IS A MEDIUM GREEN LENTIL THAT PROVIDES HIGH YIELDS BUT IS SUSCEPTIBLE TO ASCOCHYTA BLIGHT.

Process
Avondale was developed using a modified bulk-pedigree system, in which the breeder made a cross to combine the attributes of Richlea with a second green lentil released by ICARDA (International Center for Agricultural Research in the Dry Area); a smaller lentil named PI 297754. The cross between these two parents was made in a greenhouse in 1998, and

Hampton Pea (PS05100736)
Hampton field pea is a smooth green pea released in 2014 with PVP Title V. It is a spring planted, semi-leafless variety that is resistant to Pea Enation Mosaic Virus and Bean Leaf Roll Virus, as well as Fusarium Wilt (race 1) and Powdery Mildew. On top of that, it sports good partial resistance to Aphanomyces Root Rot. Hampton is named after Richard O. Hampton, professor (emeritus) at Oregon State University. Dr. Hampton is a plant pathologist who worked on many viral diseases infecting legumes. Hampton has performed well in the Pacific Northwest, and is ranked high in selected Montana locations. Look for certified seed soon, as there should be 11,000 lbs of breeder seed available in February to make Foundation Seed for 2015.

The proposed license manager for the Hampton pea is the Washington State Crop Improvement Association (WSCIA).
subsequent generations were grown in the field from 1999 to 2000. Harvested seed from each generation was cleaned and sized using a floor-model clipper with screens sized to remove foreign material and inferior seed. During the winter of 2000-2001, single seeds from the previous generation were grown again in a greenhouse and seed from each plant was harvested separately and then grown in the field in Pullman, Washington in 2001. The best plot was chosen in the field based on maturity, height, and lodging tolerance and was assigned selection number LC01602300R. LC01602300R was grown in a non-replicated observation trial in 2002 at the Washington State University Spillman Research Farm. Between the years of 2003 and 2013 the breeding line was evaluated in replicated yield trials in both Washington and Idaho to evaluate performance, yield and disease resistance. The breeding line was also grown in yield trials in Montana from 2008-2013 and in North Dakota from 2006-2012 (excluding 2007). LC01602300R performed well in all locations and was particularly suited for the Northern Tier, yielding well and standing strong.

Status

Breeder seed was made in 2011, increased by the Washington State Crop Improvement Association (WSCIA) at the WSU Irrigated Research Station in 2012; and at the USDA Plant Materials Farm in Pullman in 2013 and sent to New Zealand for a counter-season increase in 2013-2014. There is an estimated 6,000 lbs. of breeder seed available from the New Zealand increase. Foundation and registered seed is currently being made in Washington and Montana, and a PVP application (Title V) has been submitted.