

## MICROWAVE TESTS 2009

The Microwave tests were done to provide some preliminary data on new and existing hybrids. We hope this data will provide some beneficial information to our customers. We recommend that if you are interested in any of our hybrids for microwave use, you hold the hybrid to your own test standards. We will provide you with samples of any of the hybrids upon request.

### Microwave Test Variables

The hybrids were tested up to 14 times. Each hybrid had two replications tested from each test plot. Some hybrids were tested fewer times due to the availability of seed. Subjecting the hybrid to this type of test allowed us to see the consistency and range of a hybrid in the microwave from different growing conditions and regions.

With every repetition we used 65grams of popcorn and 40grams of peanut oil, measured with a digital scale to the tenth of a gram. We subjected every repetition to 1 minute and 40 seconds of popping time. The average consumers microwave popcorn button time varies from company to company and model to model. The popping time of 1 minute 40 seconds represents the shortest amount of time available for popping on the market. Using this time limit sets a standard. The standard is to see whether a hybrid has the ability to have a low amount of unpopped popcorn kernels (upk) in a consumer microwave with the minimum popping time. The microwave used was a Sharp 1000 Watt/R-21 HT commercial microwave. After popping, the sample was run over a 20/60mm screen and then measured in a 4000mm graduated cylinder. The sample was then subjected to tasting evaluation of Tenderness (1= tough as cardboard, 5= perfect no toughness) and Hulls (1= lots of hulls, 5= no hulls). The unpopped kernels were weighed on a digital scale to one tenth of a gram. The samples kernel count per 10 grams and pop (mwvt) in oil were included. The high (upk) and low (upk) range is provided to show the consistency of a hybrid among all entries.

### Results

After conducting microwave tests for four years, I think the most positive aspect a hybrid can have is a low range between its high and low unpopped kernels/gram. We test the same varieties in different test plots that can have quite different environments throughout the year. A small range shows a hybrid can be consistent across different growing zones and conditions. Typically a variety will have higher unpopped kernels when it was subjected to more stress during the growing season. A lower range value tells us which varieties can minimize the effect of stress on the amount of unpopped kernels it will have.

For four years 8156 has shown a very low average and range of unpopped kernels. It has been the most consistent every year, from four very different years and different growing zones. 15820 and 42820 had very low unpopped kernel scores this year and years past. 1117, SM820, and 6317 new short to mid season numbers had low unpopped kernel scores. 15262 and 11262 new mid to full season numbers had low unpopped kernel scores.