

## **Interesting Issues Associated with Varieties and Seed Quality in North Carolina and Virginia over the Past Decade**

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A wide range of issues can develop before and during the growing season that can impact seed quality. In this abstract we present a description of ten of the most prominent issues observed with seed during in recent years. 1) Sheller selling peanuts without certifying, improperly labeled, unknown origin, unknown parent seed, or unknown purity and quality. 2) Sheller selling uncertified seed with excessive foreign matter, low germination, excessive splits, and untreated. The sheller deliberately attempted to circumvent the certified seed system and sell inferior planting stock. 3) High Oleic trait lost in Foundation seed lots. 4) Mixtures of varieties are rare but can occur. For example, seed lots for the variety Sugg were found with pink and red seed coats and may have been adulterated by Bailey. 5) Gregory was first released with variant (bushy off-type) but was purified through Breeder/Foundation seed. 6) Low germination for several lots of Wynne in the Foundation Class in grower fields and in official grow outs. 7) Poor germination caused by drought in 2006 with gypsum still on soil surface at harvest. 8) Low turn-out due to excessive moisture at harvest and rapid drying and associated moisture stratification in drying trailers. 9) Brantley lost high oleic trait possibly due to outcrossing or contamination at the sheller. 10) Early shelling season dormancy can be an issue. Seed tested November and December and occasionally in early January has an increased occurrence of dormancy. This problem (or non-problem) disappears over time as dormancy is broken later in the season. The past two years have been of particular interest. Current and sporadic issue caused by modern cultural practices may be contributing factors that are not associated with variety.

North Carolina Crop Improvement has been certifying seed for over 50 years. Our certification standards and protocols are used to classify seed, and they are based on uniform-national standards. Proof that the system is working is the rarity of peanut seed complaints brought to the North Carolina Department of Agriculture and Consumer Services Seed Board. The only seed complaint involving peanut seed in the last 7 years was not from a certified lot but rather an illegal farmer-to-farmer transfer. Practically all seed-borne issues are discovered early during field inspections or during seed conditioning. Virtually all of these problems are removed from the seed chain before they make it to the grower field. We have very few examples of non-conforming certified seed lots that made it into the seed supply because the system works. Only one seed lot that made it to the grower with low germination in the last 7 years. Other than this case, the seed supply chain is very stable and reliable. Just to give you scope of the size of the seed supply; NC Crop Improvement certifies over 700 seed lots annually. Only one seed lot in approximately 5,000 seed lots exhibited low quality (0.02%).