Plant Breeders at Texas AgriLife Research continue to develop and release new and improved cultivars and germplasm. The Director recently approved the release of ‘Sabine’ crimson clover, ‘TexFirst’ peach, ‘Antonio’ and ‘Colorado’ rice, and Tx3362 sorghum germplasm line. All of these represent genetic gain in yield and/or quality of genetic material available to Texas’ producers.

Ray Smith and Gerald Evers developed and released Sabine crimson clover, selected for late flowering and improved frequency of hard seeds. Sabine is a synthetic cultivar that traces to ‘Chief’ crimson clover which was developed in Mississippi and released around 1960. The goal of Smith and Evers was to develop a crimson clover cultivar that matured closer to the maturity time of annual ryegrass in East Texas. Their accomplishment of this goal in the release of Sabine will allow cattle ranchers to graze the ryegrass-clover mixture about a week longer in the spring and still gain excellent clover reseeding for the next season.

Sabine crimson clover, left, in full bloom on 23 April 2008 while ‘Dixie’ crimson clover, right, has mature seed heads and fading color.

TexFirst is a new peach cultivar developed by David Byrne at AgriLife Research. This new peach will provide a low-chilling commercially acceptable peach that ripens about a week before ‘Flordaking’. TexFirst is a yellow-flesh peach that will ripen in late April to mid May in the low and medium chill zones of the United States. Dave noted that the seed
parent of this new cultivar was ‘Thai Tiger’ that was released jointly by Texas AgriLife Research and Kasetsart University in Thailand. A planting of open-pollinated seed from this cultivar was established at College Station in 1996, from which TexFirst was selected for its early maturity, productivity, yellow ground color, round shape, high red overcolor, and excellent firmness. TexFirst peach will flower and leaf in about the same time frame as ‘TropicPrince’ and 15 to 21 days before Flordaking. Thus, its chilling requirement is about 150 – 200 chilling units, i.e., hours below 45 F.

Rodante Tabien led the development and release of Antonio rice, a new cultivar developed through pedigree methodology from the cross of ‘Cypress’ and ‘Cocodrie’. Antonio has averaged numerically higher yields across Texas when compared with cultivars such as Cocodrie and ‘Presidio’ and has not been statistically lower yielding in Stuttgart, AR or Crowley, LA. Antonio is categorized as a very early heading cultivar that can be harvested in 119 days. Antonio averaged two days later maturity than Cocodrie and four days later than Presidio when grown at the Beaumont AgriLife Research and Extension Center. This new pure line rice cultivar averages about 40 inches in height at maturity, categorized as a non-lodger similar to Cocodrie, and averages 62% head rice yield compared with Cocodrie at 60% and Presidio at 63 %.
Rodante’s second new rice cultivar is named Colorado and was derived by crossing Cocodrie (developed in Louisiana) with ‘L202’ (a semi-dwarf long grain cultivar developed in California). Colorado averaged 7% higher total yield than Cocodrie in performance trials at Beaumont over the past several years. This new cultivar matures slightly earlier than Antoinio and similar to Cocodrie. Head rice production of Colorado averages about 2% greater than Cocodrie.

Bill Rooney recently developed and released Black Tx430 grain sorghum germplasm line because of its potential value in the health food industry. Since consumers often make food choices based on their health benefits, the food industry is developing and marketing food products that slow and/or reduce digestibility, reduce cholesterol levels, are high in antioxidants, and have anti-inflammatory and anti-carcinogenic properties. In addition, consumers often judge the nutritional value and appeal of food products based on color, prompting the food industry to use a range of artificial dyes to improve the sensory appeal. Many of these health benefits are associated with phenolic compounds that are present naturally in all sorghums to varying degrees. Flavonoids have been identified over the years as phytoalexins since they are produced in response to fungal invasion or other stresses in sorghum. However, one such flavonoid, 3-deoxyanthocyanin is more stable than the common anthocyanins, making it a potential natural food colorant that could replace current artificial colorants in some food products. Black Tx430 germplasm line is unique because it produces a black-colored grain when produced in a summer growing season. The dark color results from high levels of 3-deoxyanthocyanins in the pericarp of the grain. Because the anthocyanins compounds are present in the pericarp, they are easily concentrated by simply decorticating the grain and processing the resulting bran.
Other News


A few former Texas A&M students (graduate committee chair in parenthesis) currently with Monsanto Company and doing well:

Brett Ochs (Betran) corn breeding for the Southeast U.S.;

Sandeep Bhatnagar (Betran) leads the 120 RM operations in Georgia;

Rebecca Corn (Rooney) coordinates companywide inbred observation trials in Mississippi;

Brian Gardunia (Stelly and Smith) is a breeder in the Monsanto 105 RM Corn Breeding group;

Chris Hundley (Cothren) is the Global Research Equipment Lead for all crops;

Chris Souder (Smith) is corn breeder and germplasm liaison with Italy program.

Reminder: The 2012 NAPB annual meeting will be held in Indianapolis, IN August 6-8. Reminders and additional information on the 2011 meeting will be noted in future Plant Breeding Bulletins.

Please direct comments concerning this bulletin to Wayne Smith, cwsmith@tamu.edu or 979.845.3450.