Texas AgriLIFE Research

Wheat Cultivar Development

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BACKGROUND

Through breeding efforts and better management practices, grain yield of wheat in Texas has increased from an average of 20 bushels per acre during the 1960’s to 30 bushels per acre during the 1990’s (Texas Agricultural Statistics Service). The state average yield of 37 bushels per acre in 2007 set an all time record. As a result, less land, money, and natural resources are needed to produce a bushel of wheat. Modern cultivars generally have a higher yield potential, are more efficient at utilizing available natural resources, and respond better to inputs. They generally have greater resistance to pathogens and insects, thus reducing the need for chemical applications. The continuous long-term investment made by Texas AgriLIFE Research and the Texas Wheat Producers Board has netted substantial returns. At one time over half of the hard winter wheat acreage in the United States was planted to TAM cultivars.

OBJECTIVES

The goal of the Texas AgriLIFE Research wheat breeding program is to design cultivars for specific adaptation areas and management programs in Texas. The breeding objectives and the breeding process are outlined in the figures below.

RESULTS

Five new hard wheat, two winter triticale, and 3 oat cultivars have been released by the breeding program since 2002. TAM 111 (2003) has excellent yield potential and is resistant to stripe rust. TAM 112 (2005) is high yielding, widely adapted, and is resistant to greenbug and tolerant to WSMV. TAM 203 (2007) is broadly adapted and resistant to leaf and stripe rusts. TAM 304 (2007) has above-average baking quality and is recognized for disease resistance, straw strength, and high grain yield. TAMcale 5019 and TAMcale 6331 (2003) are the first triticale cultivars developed and released by Texas AgriLIFE Research, giving stocker cattle producers a wider range of options for winter pasture. TAMO 405 (2005) and TAMO 406 (2007) are the only oat cultivars adapted to Central and South Texas that are resistant to crown and stem rusts. TAMO 606 (2007) is adapted to North Texas and has excellent grain and good forage yields.