

Business Opportunity – Request for Licensing Proposals

TAM 113 Hard Red Winter Wheat Tested as TX02A0252

Texas AgriLife Research (AgriLife) has received a release proposal for a new wheat variety tested as TX02A0252. The proposal was presented to the Plant Review Committee (PRC) at the November 23rd meeting and recommended for release. An application for entry into the seed certification program by the Texas State Seed and Plant Board (SS&PB) will be considered at the SS&PB meeting in early February 2011. In keeping with our legislative mandate to protect intellectual property and license the use of new cultivars developed by the scientists of AgriLife, we are requesting licensing proposals from interested parties for the purpose of commercialization of this variety.

'TAM 113' is an awned, semi-dwarf, hard red winter wheat (*Triticum aestivum* L.) that is white glumed, medium height and medium maturing. It is adapted to the High Plains of Texas and similar areas in adjacent states. TAM 113 has been extensively tested throughout the Great Plains and is resistant to the prevalent races of leaf and stripe rust. It has good milling and baking characteristics with a standard test weight of around 60 lb/bu and relatively strong dough characteristics. TAM 113 has a similar area of adaptation and grain yield potential as TAM 111 and TAM 112. In comparison to TAM 111, it has better bread-making quality and better leaf rust resistance. In comparison to TAM 112, it has better leaf rust and stripe rust resistance.

TAM 113 is an F5 derived line from the cross TX90V6313/TX94V3724 made in 1995 at the Texas AgriLife Research and Extension Center in Vernon. Grain yield, test weight, end-use quality, and disease resistance were the primary selection criteria. It was tested in Texas Elite trials (TXE) 2006-2007, Southern Regional Performance Nursery (SRPN) 2007-2008, the Texas Uniform Variety Trial (UVT) 2008-2010, and the Wheat Quality Council (WQC) 2009.

Four years (2007-2010) of grain yield data from Texas AgriLife Research trials in the High Plains shows that TAM 113 had a similar grain yield as TAM 111 and TAM 112 in irrigated and dryland trials. TAM 111 and TAM 112 are the two most widely grown cultivars in the Texas High Plains and they are almost always among the top yielding cultivars. During the same 4 years, TAM 113 was tested at other locations in Texas, where the grain yield was average in the Rolling Plains and below average in northeast, central, and south Texas locations.

UVT data available at: <http://varietytesting.tamu.edu/wheat/index.htm>

Forage trials conducted at 5 locations across Texas in 2010 indicate that TAM 113 has average to good forage production and re-growth after clipping.

Data available at:

<http://varietytesting.tamu.edu/wheat/docs/forageTrials/2010/Forage%20Pub.pdf>

and dual purpose trials conducted in Oklahoma indicate good grain yield after grazing; thus, TAM 113 can be used in a dual-purpose (grazing plus grain) system.

The test weight and kernel size of TAM 113 is similar to TAM 111 and TAM 112. Days-to-heading is similar to TAM 111 and 3-4 days later than TAM 112. Plant height is about 3 cm shorter than TAM 111 and about the same as TAM 112. Significant lodging and shattering occurred on some cultivars at 3 of the High Plains irrigated location-years, but almost none was observed on TAM 113, TAM 111, or TAM 112. Anecdotal observations indicate that TAM 113 has a straw strength similar to TAM 111 and stronger than TAM 112. We normally get an estimate of winter hardiness from northern state participants in the SRPN, but no differential winterkill was reported in either 2007 or 2008. No winter injury was observed on TAM 113 or on any of the check cultivars during the 4 years of yield trials in Texas.

TAM 113 has good resistance to leaf rust, stripe rust, and stem rust. USDA-ARS testing postulated that it has the gene *Lr24* for leaf rust resistance; but since it has good adult plant resistance at locations throughout Texas, where *Lr24* virulence is known to occur, it must have additional seedling or adult plant resistance genes (SRPN molecular marker data indicates *Lr34* might be present). TAM 113 was resistant to the prevalent races of stripe rust during natural epidemics in 2007 and 2010. Tests have shown that the 2010 epidemics observed in Castroville and College Station were due to a new race that had not previously been detected in the Great Plains. Many wheat cultivars that were resistant in previous years were susceptible to this new race. Both TAM 113 and TAM 111 were resistant to this new race as well as to the prevalent races of 2007 and 2009. TAM 113 is resistant to the most prevalent race of stem rust in Texas and the U.S., and is postulated to carry *Sr24* gene for resistance. *Sr24* gives protection against the African race Ug99, but not to some of the Ug99 mutations that are becoming prevalent in Africa.

SRPN data indicates that TAM 113 might have some tolerance to acid soils but is susceptible to soil borne mosaic wheat virus. Data on wheat streak mosaic virus resistance is not available. Like TAM 111, it is susceptible to greenbug, Hessian fly, and Russian wheat aphid.

TAM 113 has been tested for 4 years by the Texas AgriLife Research Wheat Quality Laboratory, 3 years by the USDA-ARS Hard Winter Wheat Quality Laboratory, and was entered in the 2009 Wheat Quality Council (WQC) testing program. Direct comparison with TAM 111 indicates that it is similar in test weight, seed size, hardness, and protein content. It has significantly stronger mixing and baking strength compared to TAM 111 as measured by longer mix times, longer stability, and larger loaf volumes. In the 2009 WQC trials, TAM 113

was compared to TAM 111 and had a significantly longer bake mix time; higher crumb grain, texture, and color scores; and larger loaf volume. The overall baking quality scores of TAM 111 and TAM 113 were 3.17 and 4.21, where 3 was average and 4 was good.

TAM 113 is currently under Foundation Seed increase (80 acres) and should be available for fall planting 2011. Application for Plant Variety Protection will be filed on TAM 113.

For complete release data, including data tables, for TAM 113 please contact Steve Brown at the Texas Foundation Seed Service.

Instructions for Proposal Submission

Individuals, companies, or groups interested in being considered for an AgriLife business partnership by licensing this variety must submit a written business plan to the Texas Foundation Seed Service (TFSS) (address below).

Please mark all licensing proposals as confidential. All respondents will have until the close of business 14 March 2011, to submit to TFSS a business plan that includes the following information:

1. Historical information about the company(s) and primary seeds produced and distributed, including area(s) where seeds are marketed.
2. Marketing processes and structure, including marketing goals for initial and post-release years. The submitted plan must address marketing methods and their availability to the proposing business enterprise.
3. Proposed consideration for a license to market varieties, including proposed up-front fees, royalties, marketing materials and methods, and expected marketing area.
4. Capacity to broadly test and demonstrate utility for seed that may be licensed from AgriLife.
5. Capacity and commitment to protect licensed products from infringement.

Questions about business plans can be directed to Steve Brown of TFSS at 940-552-6226; or can be faxed to Steve Brown at 940-552-5524; or emailed to Steve Brown at rsbrown@ag.tamu.edu Send business plans to:

Steve Brown
Program Director
Texas Foundation Seed Service

11914 Hwy 70
Vernon, TX 76384

Texas AgriLife Research and The Texas A&M University System reserve the right to accept or reject any or all proposals submitted, and to re-solicit information or cancel this request if such action is deemed to be in the best interest of the Texas A&M University System. In order to prevent inadvertent access to confidential information submitted, the respondent(s) should identify business plan information as confidential and exempt from disclosure under the Texas Open Records Act. Within the Texas A&M University System, all submitted business plans will be held in strict confidence, and will be shared only with employees of the Texas A&M University System who participate in decisions regarding this invitation. If a respondent(s) is selected for negotiation of a license agreement(s) upon the basis of response to this request, such selection will be based upon a variety of factors which are deemed by the A&M System to be the best combination(s) available to achieve the A&M System's mission for commercialization of the variety.