Cayuga is 1 to 3 d later to heading and maturity relative to Harus and Geneva. Cayuga has yellow-green stems and leaves at booting and hollow white stems at maturity. At booting, the flag leaf is erect and twisted and the spikes have a waxy bloom. Spikes are middense, tapering, apically awnletted, and average 7 to 8 cm in length. Glumes are white, medium-long, and wide and have a rounded shoulder and an acute beak. The soft white kernels are ovate, have rounded cheeks and a medium brush, and has a shallow, midbase crease. Seeds average 6.3 mm in length and 3.6 mm in width and the mass of 1000 kernels averages 35 g.

Cayuga is moderately resistant to prevalent races of loose smut [caused by *Ustilago tritici* (Pers.) Rostr.], powdery mildew (caused by *Erysiphe graminis* DC. f. sp. tritici Em. Marchal), and moderately susceptible to leaf rust (caused by *Puccinia recondita* Roberge ex Desmaz.). Cayuga is susceptible to stripe rust (caused by *Puccinia striiformis* Westerd.), and resistant to wheat spindle streak mosaic virus (WSSMV).

The generation sequence of seed production will be breeder, foundation, and certified. Cultivar protection under the U.S. Plant Variety Protection Act is pending (PVP Certificate no. 9700007). Cayuga was approved for release in 1993 and breeder seed was planted for increase that year. Certified seed was made available to farmers in the fall of 1995. Breeder and foundation seed will be maintained by the New York Seed Improvement Cooperative, 249 Emerson Hall, Cornell University, Ithaca, NY 14853.

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References and Notes


Registration of ‘TAM 301’ Wheat

‘TAM 301’ hard red winter wheat (*Triticum aestivum* L.) (Reg. no. CV-855, PI 595644) was developed by the Texas Agricultural Experiment Station (TAGES) and released in 1995. The experimental designation for TAM 301 was TX89D9627.

The pedigree of TAM 301 is ‘Mit’/‘Kavkaz’. Mit (Citr 17896) was developed and released by TAES as an improved hard red winter wheat cultivar in 1980, and has the pedigree TX391-56-D1-24/3; “Bison”/“Caddo”/“Frontana”/“Westar”. TX391-56-D1-24 is a ‘Sturdy’ sib, and TX55C907 has the pedigree 24/3/rX55C907/‘Bison’/‘Caddo’/4/’Frontana’/’Westar’. TX391-56-D1-24 is a ‘Sturdy’ sib, and TX55C907 has the pedigree 24/3/rX55C907/‘Bison’/‘Caddo’/4/’Frontana’/’Westar’. TAM 301 was developed and released by TABS as an improved hard red winter wheat cultivar in 1980, and has the pedigree TX391-56-D1-24/3; “Bison”/“Caddo”/‘Frontana’/“Westar”.

The selected hills were harvested and grown in replicated yield plots at Dallas during the 1986–1987 season. One of the selections designated TX89D9627, was subsequently tested for yield, disease resistance, and agronomic characteristics at Dallas and Prosper, TX for 3 yr (1988–1990), during which time it exhibited high yields and resistance to leaf rust, septoria tritici blotch, and powdery mildew [caused by *Erysiphe graminis* DC. f. sp. tritici Em. Marchal; syn. *Blumeria graminis* (DC.) E.O. Speer] TAM 301 was tested in uniform, intrastate nurseries for 59 location-years. Approximately 500 F2 heads were selected in the spring of 1992, grown as single rows in 1990–1991, and visually evaluated for uniformity of type. In 1991–1992, 437 of the uniform rows were bulked to form the initial breeder seed of TAM 301.

TAM 301 is an awned, semidwarf, hard red winter wheat with brown chaff. Plant color at booting is green. Anthocyanins on the lower sheaths and glumes are absent from the auricles. The flag leaf at booting stage is recurved and is not twisted. The heads are dense and tapered. At maturity, the glumes are long and wide with wanting shoulders and acuminate beaks. The juvenile plant growth habit is semierect.

TAM 301 has been shown to be adapted to all of the wheat-growing areas of Texas; however, TAM 301 consistently out-yielded the check cultivars and performed best at testing locations in north and central Texas. From 1992 to 1995, TAM 301 had the highest average grain yield (3870 kg ha−1) compared with the check cultivars. Karl 92, ‘Ogallah’, ‘TAM 202’, ‘TAM 300’ ‘2163’, and ‘2180’ were nearest in yield to TAM 301, yet TAM 301 yielded at least 336 kg ha−1 less than TAM 301. TAM 301 had an average grain volume weight of 785 kg m−3, which was higher than or equal to that of the best check cultivars over all testing locations from 1991 through 1995.

TAM 301 is a medium-maturing wheat, with an average heading date in the Texas Blacklands of 101 d from 1 January, the same as that of ‘TAM 200’ and 2163. TAM 301 is a short, semidwarf, averaging 812 mm, similar to TAM 200 and 2163. TAM 301 has been observed to occasionally lean at maturity, but lodging has not been a problem. The winterhardiness of TAM 301 is similar to TAM 200 and 2180.

TAM 301 carries the leaf rust resistance genes *Lr1*, *Lr2a*, *Lr10*, and *Lr26*. Another gene, probably *Lr3* or *Lr24*, is also present, but the effects of this additional gene are masked to some extent by the presence of the other *Lr* genes. This combination of the five seedling genes (*Lr1*, *Lr2a*, *Lr10*, *Lr26*, and either *Lr3* or *Lr24*) may provide protection to leaf rust that is more durable than any of the resistance genes used singly. TAM 301 has significantly greater resistance to *S. tritici* than most commercially grown hard red winter wheat cultivars. The level of *S. tritici* resistance in TAM 301 is equal to that of Kavkaz (the pollen parent), ‘Siouxlnd 89’ and ‘Oasis’ in growth chamber studies, and exceeds that of ‘Siouxlnd 89’ and ‘Oasis’ in the field. Kavkaz is also the source of *S. tritici* resistance in TAM 301 (and ‘Siouxlnd 89’ and ‘Oasis’). Oasis is a soft red winter wheat that carries resistance to *S. tritici* derived from ‘Bulgaria 88’, a source of resistance different from that in Kavkaz. TAM 301 has a high level of resistance to powdery mildew, similar to ‘TAM 107’ and TAM 200. TAM 301 has a moderate reaction to yellow dwarf (caused by the barley yellow dwarf virus, BYDV) and to Septoria nodorum blotch (caused by *Siagonospora nodorum* Berk. in Castellani & E.G. Germano; syn. *Septoria nodorum* Berk. in Berth. & Broome; teleomorph *Phaeocarya nodorum* (E. Müll. Hedj.) Hedj.] TAM 301 is susceptible to common root rot (caused by a soilborne fungal complex), wheat soilborne mosaic virus (SBWMV), and the prevalent biotypes of greenbug [*Schizaphis graminum* (Rondani)] in field trials from 1989 to 1993. The reaction of TAM 301 to wheat streak mosaic virus (WSSMV), Harmonia axyridis (Say), and Russian wheat aphid (*Diuraphis noxia* (Mordvilko)) is not known.