



Desert Durum wheat “Tipai” (UC1585)

DEVELOPMENT

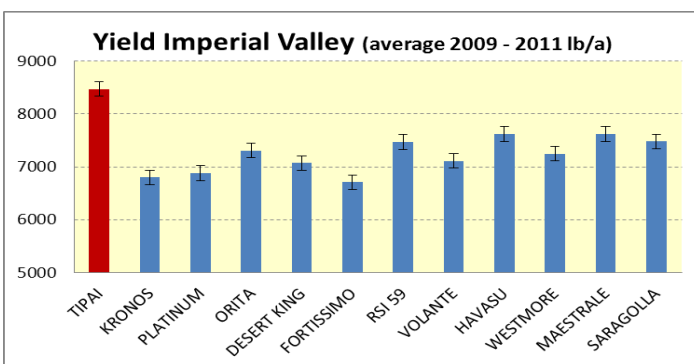
Tipai was developed by the University of California wheat breeding program (breeders Oswaldo Chicaiza and Jorge Dubcovsky). Selection for disease and pest resistance, yield, was conducted at the UC Desert Research and Extension Center. Tipai was also tested in grower’s fields in the Central Valley. Pasta quality was evaluated at the California Wheat Commission. Tipai development was funded by the University of California, the California Wheat Commission & California Crop Improvement Association.

BREEDING HISTORY AND DESCRIPTION

Tipai is a Desert Durum ® wheat line derived from the backcross cross UC1113//UC1113/Kofa. UC1113 is a UC Davis breeding line with high yield potential and Kofa is an old WestBred variety with excellent quality (no longer grown in California). The main selection criteria were yield potential and pasta quality. Tipai is a short-stature high-yielding Desert Durum line with a strong straw. It has a *Phytoene synthase 1* gene associated with high yellow pigment content and a deletion in a *Lipoxygenase* gene associated with good pasta color stability.

Tipai is a short-stature high-yielding variety with a strong straw. On average, this variety is 10 cm taller than Kronos and heads 6 days later. Tipi has shown the **highest yields** (3-years averages) **for the Small Grain Regional Trials in the Imperial Valley** (Agronomy Progress Reports 303 & 304, <http://smallgrains.ucdavis.edu/>). On average, Tipai is 10 cm taller than Kronos and heads 6 days later.

AVERAGE YIELD DATA 2008-2011



Tipai has been the top yielding durum variety in the Small Grain Regional Trials for the Imperial Valley when three years averages are considered (both 2008-2010 and 2009-2011). Complete yield and quality data are available in the Agronomy Progress Reports 303 & 304 (<http://smallgrains.ucdavis.edu/>). Based on the 2009-2011 averages Tipai showed 24% higher yield than Kronos (fig. left).

ADAPTATION

Tipai has been one of the top yielding varieties at Imperial Valley. However, its yield performance in the Sacramento and San Joaquin Valleys was not as high as other varieties likely because of its partial susceptibility to stripe rust. Therefore, Tipai is recommended for the Imperial Valley in California and similar environments where stripe rust is not a problem (e.g. the Yuma Valley in Arizona).

PEST AND DISEASE RESISTANCE

In all the field tests done in the Sacramento and San Joaquin Valleys Tipai showed good resistance to black point, leaf rust, and Barley Yellow dwarf virus. However, Tipai is only partially resistant to stripe rust, and for that reason it is recommended for growing regions where this disease is not a problem (e.g. Imperial Valley).

PASTA QUALITY

Quality parameters were obtained from analyses conducted at the California Wheat Commission quality laboratory from 2008-2010 (<http://smallgrains.ucdavis.edu/>). Tipai showed excellent values for all pasta quality parameters, and no significant differences with Kronos (a long-term standard for high pasta quality) for thousand kernel weight, gluten strength (alveograph W value), wet and dry gluten and pasta firmness. Tipai showed a 1% lower grain and semolina protein concentration than Kronos but higher semolina extraction and better pasta color than Kronos. Tipai was favorably evaluated for pasta quality by different milling companies in the California Wheat Quality Collaborator Program in 2009 and 2010.

SEED CLASSES AND PRODUCTION

Seed classes of Tipai are Breeder, Foundation, Registered and Certified. The University of California Foundation Seed Project, Davis maintains breeder and Foundation seed classes. Seed production of Foundation, Registered and Certified classes is limited to California. Foundation seed is available for production of Registered and Certified seed.

ALLOCATION & LICENSING

Foundation seed of Tipai is distributed by the University of California Foundation Seed Program to licensed brokers and seed houses **twice annually**, fall and spring. Off-cycle requests are considered on a case-by-case basis.

To obtain information and/or a license for Tipai contact the University of California, UC Davis InnovationAccess:

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