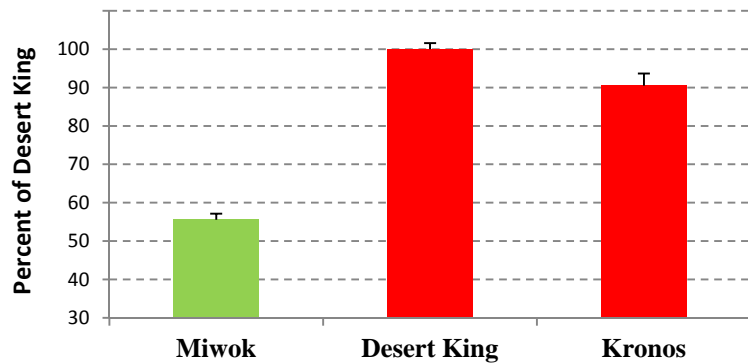


“Miwok”

A low-cadmium desert durum: Cadmium is a heavy metal that may have negative impacts on human health if consumed at high levels for long periods of time. Therefore, some import markets such as the European Union are requesting lower levels of cadmium in the food. Most commercial durum varieties have relatively high levels of cadmium in the grain when planted in soils with high levels of this heavy metal. To improve consumer safety and avoid the exclusion of California durum wheat varieties from international export markets we are developing low cadmium durum varieties for California.

The high level of cadmium in durum wheat is associated with a defective *Cdu1* gene. The incorporation of the functional *Cdu1* (from the variety Strongfield) greatly reduces the levels of cadmium in the grain. “Miwok”, is the first UC Davis variety with a functional *Cdu1* gene, which is reflected in cadmium levels that are 44% lower than those observed in Desert King and 38% lower than those observed in Kronos (Fig. 1).

Fig. 1 2013 Imperial Cadmium levels



Yield potential: Miwok has an excellent yield potential. In the Regional Trials at Imperial Valley in 2013 Miwok outperformed Desert King and the other commercial varieties included in this trial (Fig.2). In the 2013 Regional trials in the San Joaquin Valley Miwok yielded more than other current commercial varieties in Fresno (Fig. 3), and was among the top three in Kern.

Fig. 2 Regional Durum Imperial 2013

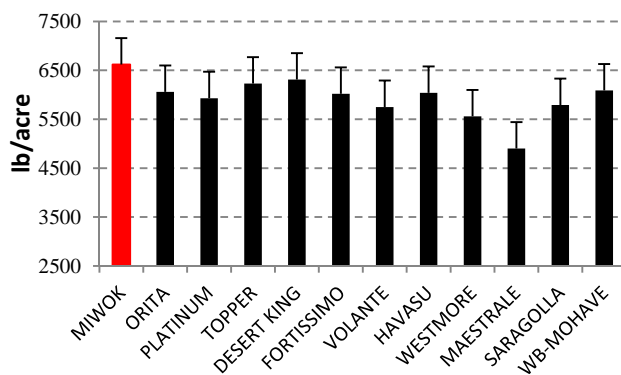
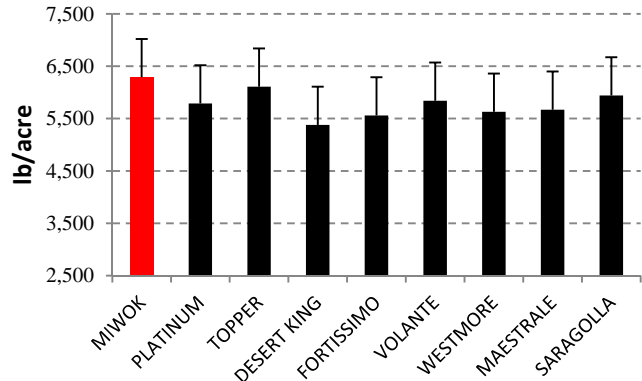


Fig. 3 Regional Durum Fresno 2013



Quality: quality parameters were obtained from analyses conducted at the California Wheat Commission quality laboratory from 2011-2013 (<http://smallgrains.ucdavis.edu/>) and from the California Wheat Quality Collaborator Program in 2011-2012. In all these trials Miwok showed excellent values for all pasta quality: high protein content (~Kronos), strong gluten and excellent pasta color (similar to Desert King). Miwok showed higher semolina extraction than other durum varieties.

Seed classes and production: Seed classes of Miwok 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.

Allocation & licensing: Foundation seed of Miwok 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 Miwok contact

University of California, UC Davis InnovationAccess:
Denise Meade, Intellectual Property Analyst
1850 Research Park Drive, Suite 100
Davis, California 95616
Phone: (530) 754-8674
Email: dlmeade@ucdavis.edu