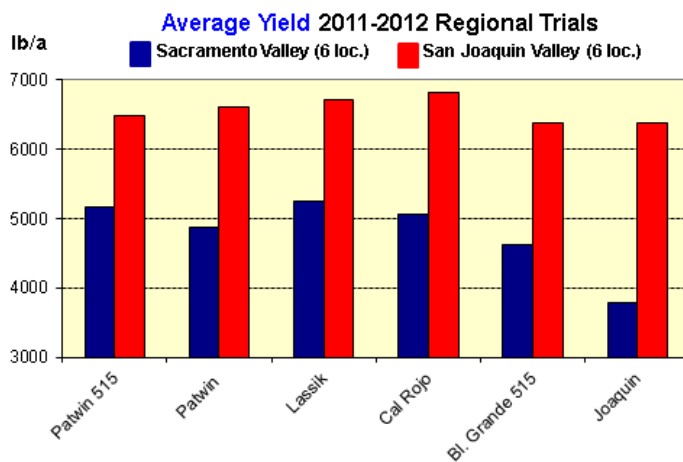


Patwin-515 Wheat Variety

Patwin-515 is a hard white spring hexaploid wheat variety derived from the UC variety Patwin (currently grown in 7000 ac in the Sacramento Valley). Patwin is resistant to current races of stripe rust present in California and carries the stripe rust resistance gene *Yr17* and other unknown stripe rust resistance genes. As part of a preventive breeding effort to improve the durability of the stripe rust resistance varieties, stripe rust resistance genes *Yr5* and *Yr15* were introgressed into Patwin. The population of stripe rust races in California is continuously changing and the pyramiding of multiple resistance genes is required to enhance durability. Resistance genes *Yr5* and *Yr15* are currently resistant to all known races of *P. striiformis* present in California and elsewhere in the United States, and were introgressed into Patwin using two independent backcross programs.

Patwin-515 flowers earlier (4-5 days) than Patwin and is 8 cm shorter than Patwin. Patwin is resistant to stripe rust, so the incorporation of *Yr5* and *Yr15* is intended to protect those resistance genes and extends durability of the resistance. Patwin-515 also showed significantly better levels of resistance to barley yellow dwarf virus (BYDV) than Patwin. Patwin and Patwin-515 are morphologically very similar and show similar yield potential (Patwin-515 yield was 330 kg/ha higher than Patwin). Patwin and Patwin-515 have excellent bread-making quality.

Patwin-515 performs well agronomically in all areas where it has been evaluated in California



and has good quality characteristics for bread making. Patwin-515 appears to be very well suited for the Sacramento, San Joaquin and Imperial Valleys where it shows high yield potential under irrigation. Patwin-515 combines high yield potential with excellent bread making quality and resistance to the major pathogens found in California. Its primary use is for bread production. The figures shows comparative yields of Patwin 515 to

other high-yielding strip rust resistant California varieties (average 2011-2012 regional trials) in the Sacramento and San Joaquin Valleys

Market potential: The original Patwin is currently grown in 7000 ac and is expected to be replaced by Patwin-515. In addition Patwin-515 has potential to increase acreage because several California varieties are becoming susceptible to current races of stripe rust.