



## PNW YIELD GAP HIGHEST IN NATION

COLFAX, Wa. – Recent research points toward unrealized grains per head and low grain weight as the greatest potential yield loss among wheat crops in the Pacific Northwest. The health and viability of the flag leaf is the conduit to extending the grain fill period and increasing weight per grain. “The ‘stay green’, or longevity, of the flag leaf contributes more to yield than any other photosynthetic trait associated with wheat by prolonging the length of time focused on grain filling,” explains Cat Salois, Director of Research and Technology for The McGregor Company. “On average, in the Pacific Northwest, 4 bushels per day are lost for each day grain fill is cut short.”

For the past 3 years, Salois has been an active contributor to the Maximum Wheat Yield Project (MWYP), an international collaborative research initiative examining the gaps between current yield and potential yield in the Pacific Northwest (PNW). The results of that research indicate that the PNW wheat crop consistently lags behind other high yielding regions in two critical yield building functions – *grains per head* and *weight per grain*. Additionally, the deficit from these yield components is driving the PNW to have the largest yield gap in the nation – a gap, which Salois aims to fill.

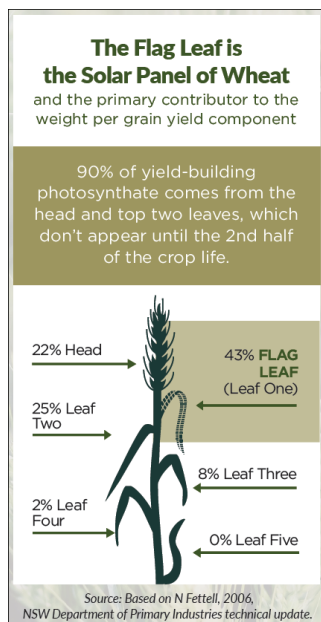
“In the environment of the Pacific Northwest, our greatest opportunity to close the yield gap exists by managing wheat from flag leaf emergence through grain fill, impacting 2 of the 3 yield components,” says Salois, “Increasing the grain weight by just 1 gram per thousand grains adds up to 3 bushels per acre of yield gain.” By shifting a portion of the crop inputs later into the season, Salois and her team have been able to successfully improve the health of the flag leaf resulting in a consistent 10% yield gain, which Salois credits to a combination of foliar nutrition and plant health fungicides applied at Feekes stages 9 to 10 (full flag leaf emergence to head emergence).

“Applying a true plant health type fungicide will cause the plant to think it has a low-energy status, which then leads the plant to begin taking up more carbon and nitrogen, thus increasing photosynthesis beyond what would have occurred without those applications and allowing the plant to grow through stresses longer into the season,” explains Salois. “By reducing plant stress, and thereby reducing the ethylene gas production that signals the plant to ripen and mature, the plant is able to keep energy stores focused on yield production rather than being diverted to survival.”

This performance gain is rooted in the tremendous solar radiation resources (i.e. sunlight) of the PNW. Longer days, and considerably more sunny days, equates 25-30% greater sunlight capture than other high-yielding regions. Paired with peak sunlight availability occurring in June and overlapping the critical grain fill period, the environmental potential of the PNW is among the highest in the United States and higher than that of the United Kingdom.

In order to maximize the PNW's immense environmental potential, reduce yield losses, and close the yield gap, more intentionality must be placed on feeding the crop what it needs, when it needs it. Plant health fungicides plus the right foliar nutrition plan at flag leaf timing aligns peak crop demands with peak nutrient availability to extend grain fill, leading to heavier grain and increased yields at the finish line.

The McGregor Company's yield management strategy, Yield 3D™, focuses on bringing intentionality to each yield component throughout the entire growing season. For additional information on nutritional crop inputs and propelling yield potential through grain fill, visit [www.mcgregor.com](http://www.mcgregor.com) or contact a McGregor Certified Crop Adviser at (509) 397-4355.



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