

Plant Health & Foliar Nutrition At Flag Leaf

90% of yield-building photosynthate comes from the head and top two leaves. ‘Stay Green’ (or longevity) of the flag leaf from emergence to senescence **contributes more to yield than any other photosynthetic trait** associated with wheat by prolonging the length of time to contribute to grain filling.

The PNW has the highest yield potential in the nation and is highly competitive in the world market. This region also has the **largest gap between achieved and potential yield.** This remarkable potential is driven by 25-30% greater solar resources with the peak of sunlight capture occurring in June and overlapping grain fill timing. **4 bushels per day are LOST for every day grain fill is cut short.**

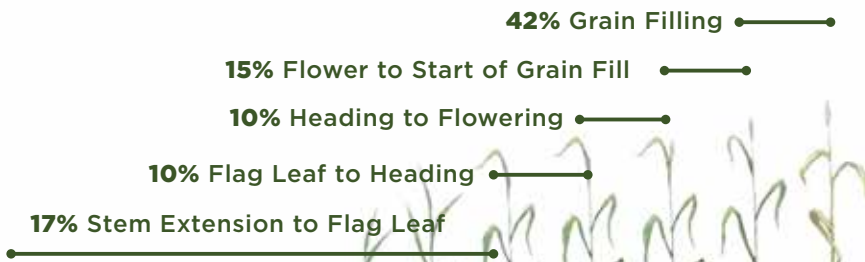
Managing Wheat From Flag Leaf Emergence Through Grain Fill is the Most Critical Time for High Yields. Foliar nutrition paired with plant health fungicides protects from disease, minimizes environmental stress, and keeps nutrients available to the plant at critical demand timing. **The health of the flag leaf directly corresponds to yield gains (and LOSSES)** by extending grain fill and consequently increasing the weight per grain.

Take back your yield...From flag to finish.

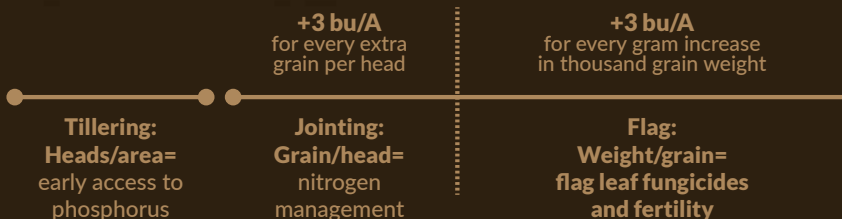
% Yield Loss by Growth Phase

In order to close the yield gap, the same efforts that are put into the front (vegetative) half of the season must also be put into the back (reproductive) half of the season when 2 out of 3 yield components (grains per head and weight per grain) are impacted.

Potential Yield Loss by Crop Stage



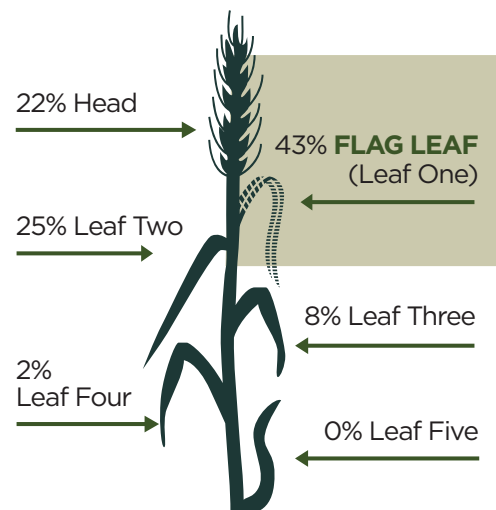
The season can be LOST in the Second Half.



Beed et al, 2017. Predictability of wheat growth and yield in light limited conditions.

The Flag Leaf is the Solar Panel of Wheat and the primary contributor to the weight per grain yield component

90% of yield-building photosynthate comes from the head and top two leaves, which don't appear until the 2nd half of the crop life.



Source: Based on N Fettell, 2006, NSW Department of Primary Industries technical update.

START. FEED. FINISH



YIELD 3D

Your pathway to optimal farm profitability

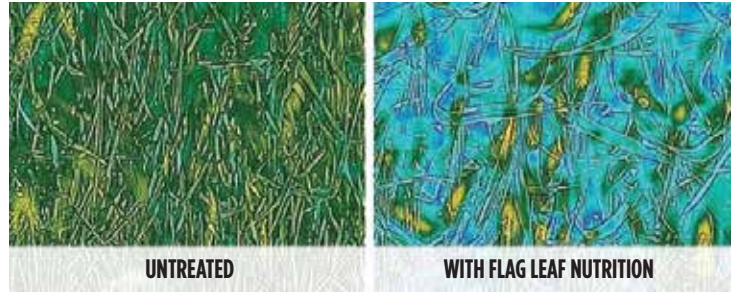
Take Back Your Yield...from Flag To Finish.

Plant health fungicides + foliar nutrition *EXTEND* photosynthesis and *GRAIN FILL*.

4 bushels LOST
every day grain fill is cut short



7.9 BU GAINED WITH FLAG LEAF TREATMENTS.
Hooper, WA 2019. 7 fl oz/A Nexicor fungicide + 16 fl oz/A MAX-IN® Boron applied at flag leaf. Image taken 45 DAT.

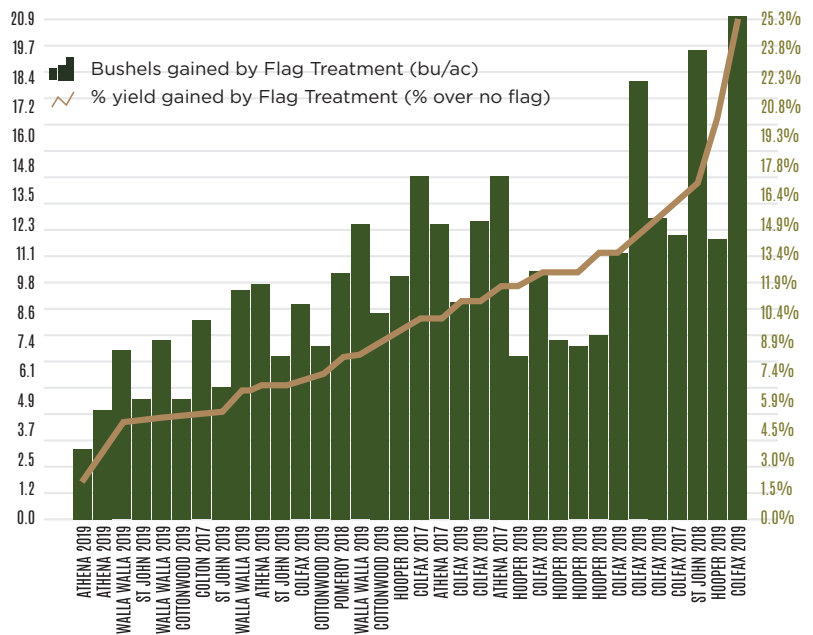


9.5 BU GAINED WITH FLAG LEAF TREATMENTS.
Colfax, WA, 2019. 7 fl oz/A Nexicor fungicide + 2 gal/A Urea + 24 fl oz/A MAX-IN® Boron applied to soft white winter wheat at Feekes 10. Thermal image taken 5 DAT.

10.3 bu/ac average yield increase
with flag leaf fungicides + foliar nutrition

Applying a fungicide with plant health benefits will cause the plant to think it has a low-energy status (or ATP), which will lead to **upregulation in photosynthesis (ENERGY) and increased uptake of carbon and nitrogen (FUEL) beyond what would have occurred without those applications.**

Fungicides paired with a balanced foliar nutrition package applied at Feekes stage 9 to 10 has consistently resulted in a **10% yield advantage** in the PNW. 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.**



Over 40 times from 2017-2019 a fungicide + foliar fertilizer in combination was applied by TMC in a research setting.

Yield Component: Weight Per Grain

Premium Plant Nutrition



www.mcgregor.com