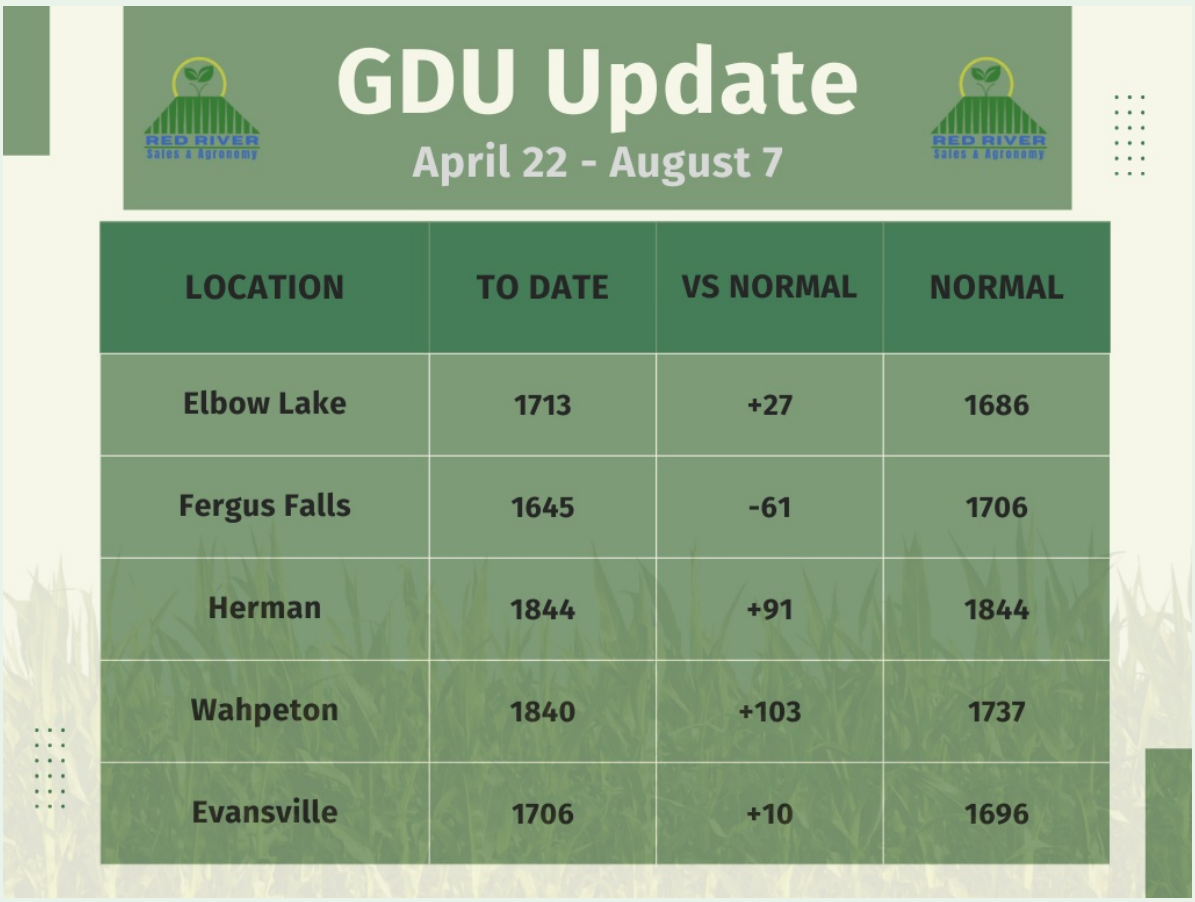
GDU Update
Soybean Aphid Scouting
Yellow Corn Observations
Corn Rootworm Beetle Scouting



LOCATION	TO DATE	VS NORMAL	NORMAL
Elbow Lake	1713	+27	1686
Fergus Falls	1645	-61	1706
Herman	1844	+91	1844
Wahpeton	1840	+103	1737
Evansville	1706	+10	1696

GDU Calculator

Scouting for Soybean Aphids

Over the past week soybean aphid populations are on the rise. If you haven't already done so, its time to scout your fields! Scouting for aphids

should continue from here on out until soybeans are at reproductive stage 6.5, think through Labor Day Weekend. An ideal place to start examining for aphids is on the bottom side of the newer trifoliate leaves. Don't forget to look a little deeper in the canopy on stems and pods, especially if conditions have been hot/dry. The economic threshold is 250 aphids per plant on 80% of the plants with in increasing population - at that point, its time for a controlled treatment plan.

Soybean Aphids and Insecticide Resistance

As you scout and prepare to spray, it is important to note that populations of aphids resistant to pyrethroid insecticides have been documented locally in previous years.

The following are suggestions for managing aphids in 2024 with the ability to manage against pyrethroid resistance:

- Currently soybean aphid populations are on the rise
- Plan to scout for aphids now through mid to late August.
- Assume resistant aphids are present and choose insecticides accordingly
- Use of insecticides with group 1,4, or 9 components is recommended
- Continue scouting fields following application
- If application of a pyrethroid has been ineffective 'retreat' with a different group insecticide.

Yellow & Uneven Corn: Carbon, Oxygen, and Hydrogen Uptake

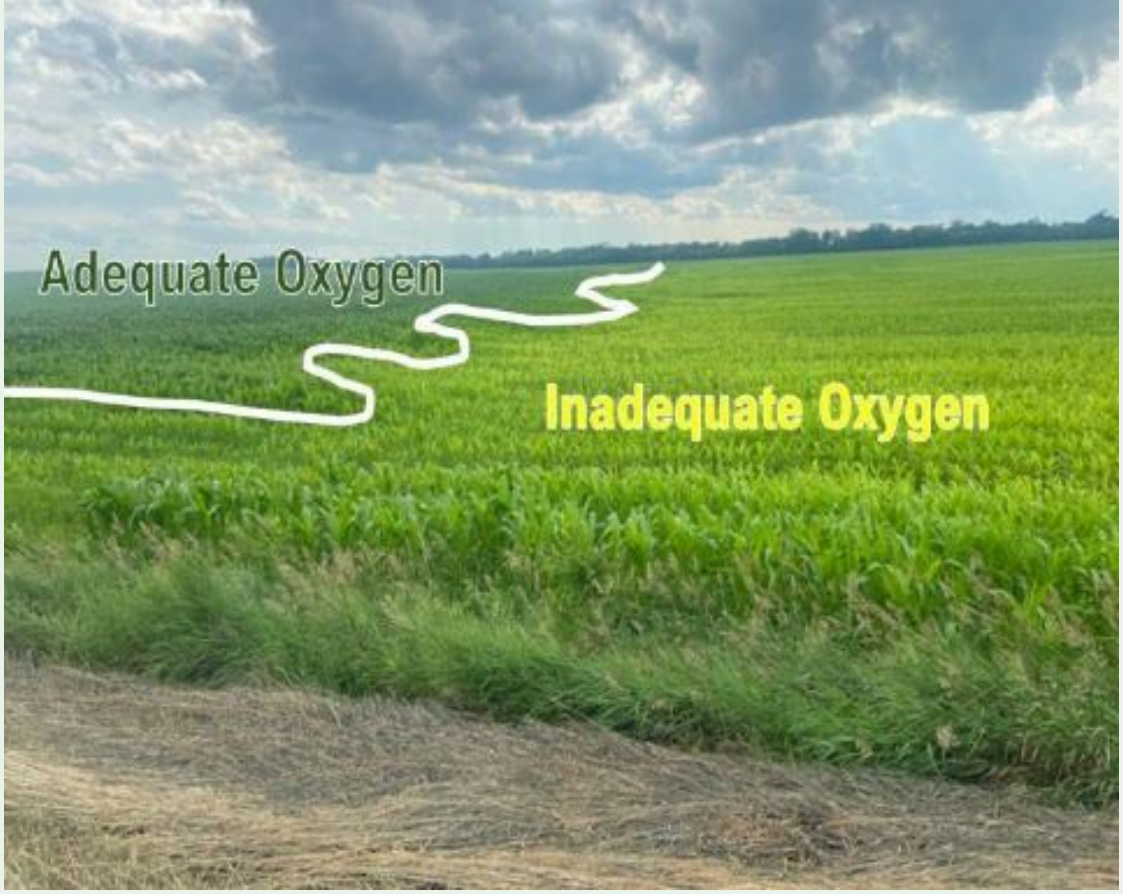
The key to managing these essential nutrients is to manage soil water. If the soil contains too much water, mitochondria in the corn root cells suffocate from lack o oxygen and die, leading to overall root death. The soil atmosphere contains up to about 21% oxygen, whereas the solubility of oxygen in water is about 6-12 parts per million. Oxygen in the soil atmosphere in a well-aerated soil is about 30 times more available to the corn root than oxygen in a water saturated soil.

Managing water in the soil is like managing oil in your tractor engine. if you maintain the oil level between the "full" and the "add" marks on the dipstick, oil pressure is suitable for proper engine function. For water, if the water content in the soil is greater than the wilting point and is at or less than field capacity, corn grows properly.

Management practices to better ensure maximum corn growth and yield include:

- Install tile to more rapidly remove excess water during rainy periods
- Manage soil tillage to create soil structure that allows maximum water percolation and capture during and after rains or irrigation.
- Improve the soil structure to allow better retention of water between rainfalls or irrigations.
- Fertilize properly to allow the corn plant to efficiently capture all of the carbon it can.

This year we have been very limited on oxygen in a lot of soil because of the saturated conditions we have had. Not having enough oxygen stunts the growth of the plant but not necessarily the development. Growth is cell expansion and increase of size. Development is the plant stage. Many of the stunted, yellow corn is about to tassel close to when the big, healthy, dark green corn will. It is just about half the size and will produce half or less the size of the ear.



Corn on Corn looks to be more challenging this year

It all goes back to oxygen again. Corn has 5x as much residue vs. soybeans. Microbes must break down that residue while next corn crop is growing. They need oxygen to do that. If we are in an oxygen-limited environment, corn will not have all the oxygen it needs to grow and it will suffer. Havin 5x the residue in the field makes for much more oxygen that the microbes need and less for the corn.

Updated Corn Rootworm Counts

2024 Sticky Trap Counts

Location & Roatation	Week 1 July 25th	Week 2 August 1st	Week 3 August 8th	Week 4	Week 5	Week 6
Herman	7	48	64			
Evansville	1	3	4			
Elbow Lake	0	3	2			
Wendell	0	3	3			
Dalton	6	12	13			
Fergus Falls	8	10	5			

*All location counts denote Northern Corn Rootworm unless marked with a 'W'. W= Western Corn Rootworm
*Average of 6 traps, set out on July 18th

Field was sprayed with insecticide

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