Nutrient Management: Best Management Practices to Adapt to Extreme Rainfall Events

Agriculture in a Changing Climate August 24, 2011

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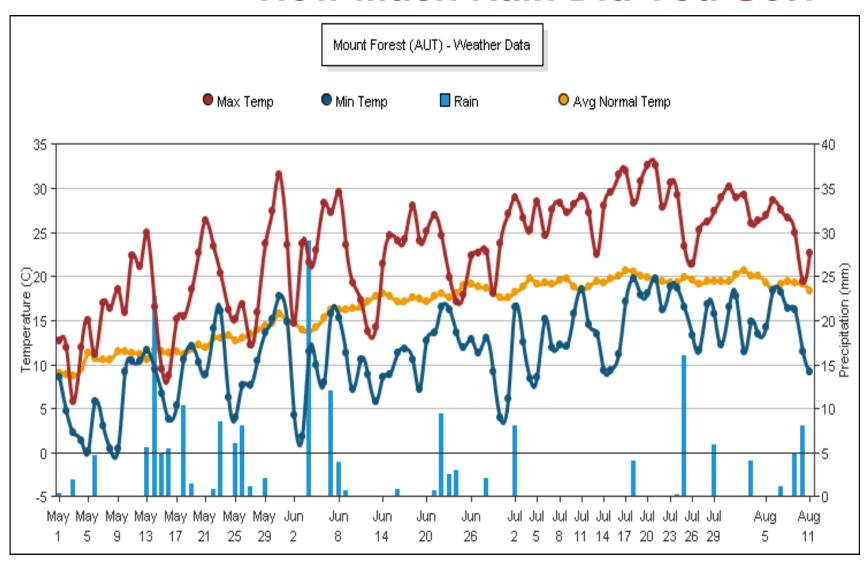
Changing Weather Patterns!

"We know that extreme weather is becoming more frequent.

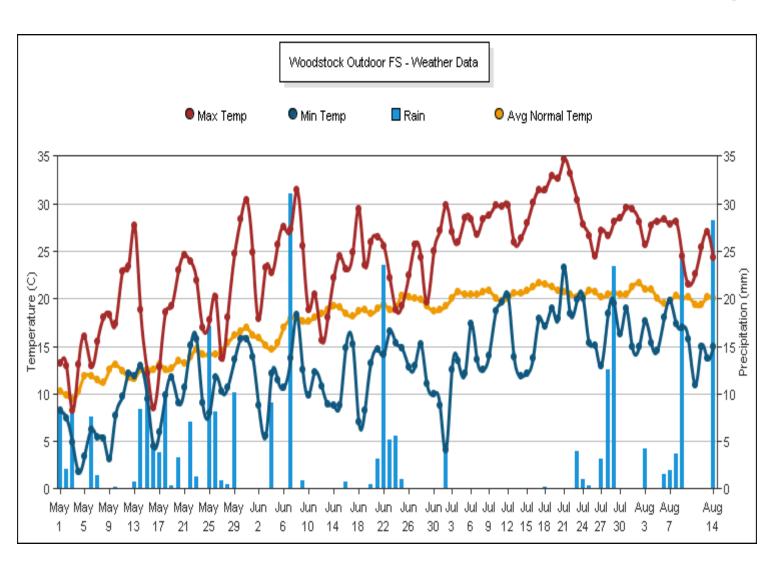
Across the province we have seen an increase in prolonged heat waves, torrential rainstorms, windstorms, even drought."

Climate Ready - Ontario's Adaptation Strategy and Action Plan 2011 - 2014

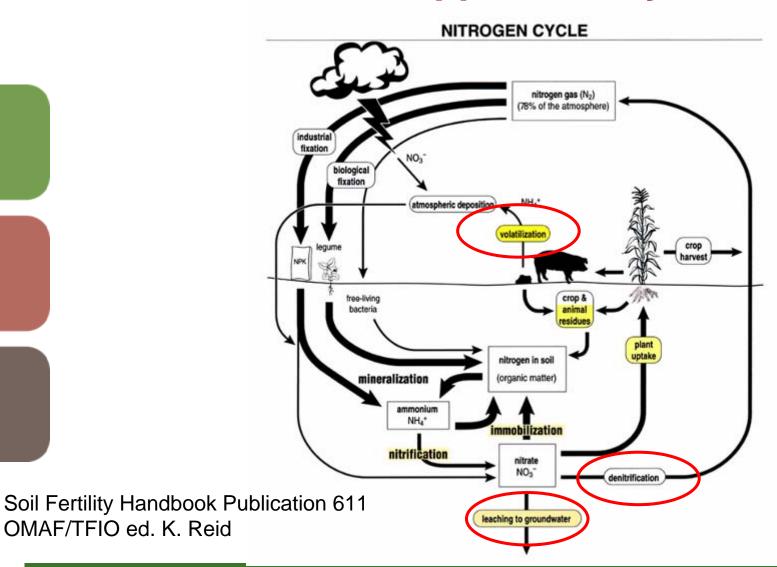
How Much Rain Did You Get?



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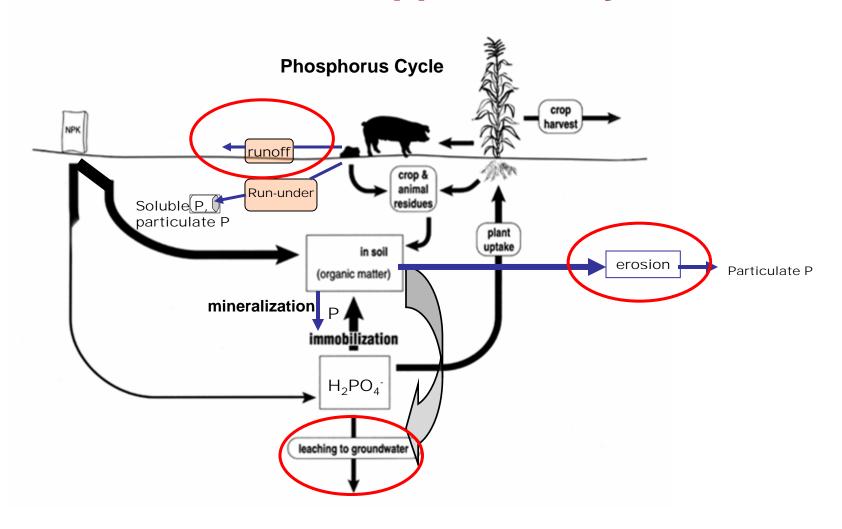


What Happens to My Nutrients?



OMAF/TFIO ed. K. Reid

What Happens to My Nutrients?

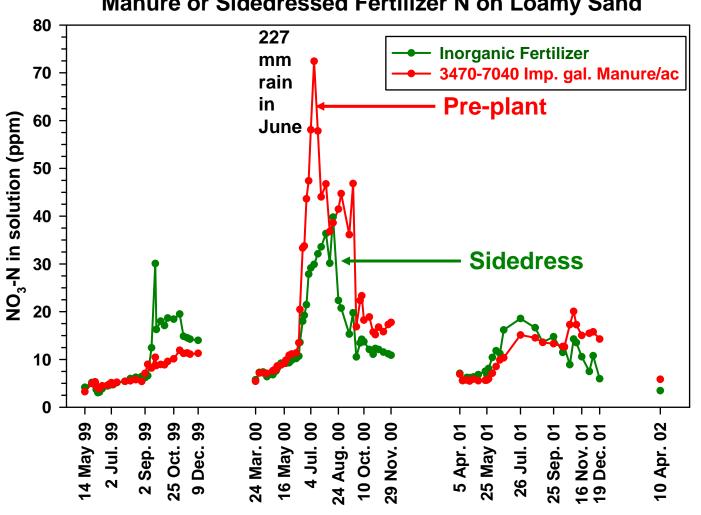


Rain Quantity

Too Much

Nitrate leaching is reduced with later N application





Sidedress Nitrogen Sources

Fertilizers

Anhydrous ammonia





Sidedress Sources

Manure



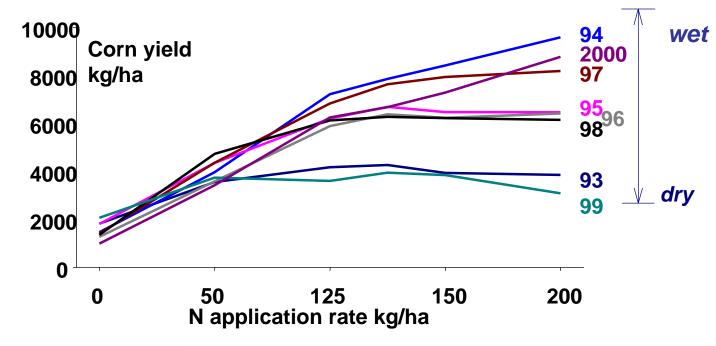




Rain Quantity

Not enough





Cover crops absorb excess nitrate

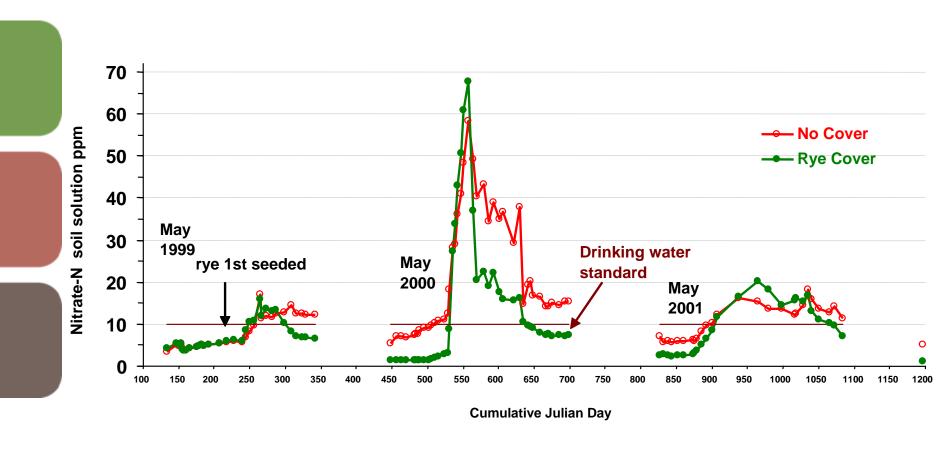
Cereal rye overseeded into standing corn by airplane



Rain Quantity

Not enough

Nitrate leaching is reduced by cover crop in fall and spring



Rain Intensity

Keeping soil covered



Rolling cover crop & planting

Tool bar of the Sub-Surface Tiller Transplanter Virginia Tech



Rain Intensity

Snowmelt events

Erosion Runoff



Rain on frozen ground

Cleaner runoff

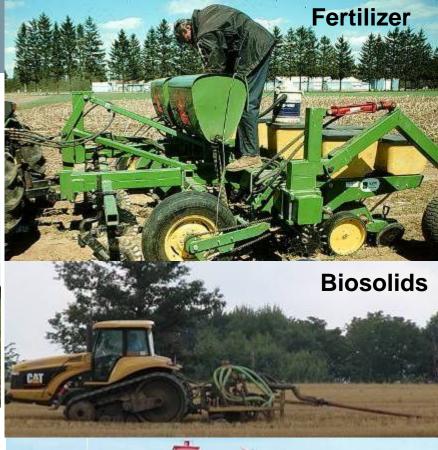




Rain Intensity

Band or subsurface placement instead of broadcast







Plant into tilled manured zone

Conclusions

Time nutrient application to crop use Keep soil covered Don't leave nutrients on the surface

Thank you

