COVER CROP CONSIDERATIONS FOR 2013

COLLABORATIVE PRESENTATION

Matt Ruark – Soil Science

- Nitrogen, soil quality

Francisco Arriaga – Soil Science

- Water, erosion

Paul Mitchell – Agriculture Economics

- Rules & regulations, insurance

Vince Davis – Agronomy

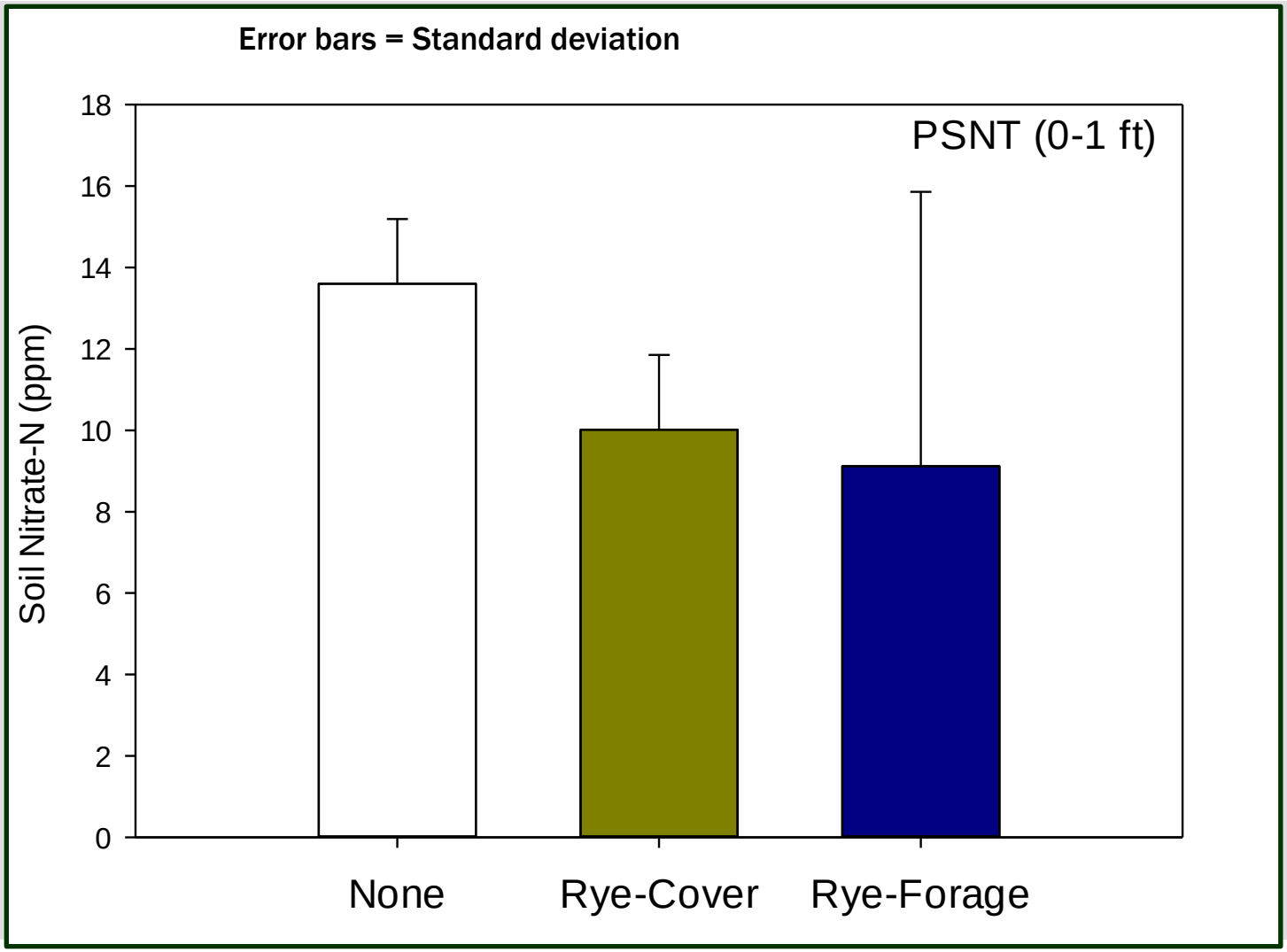
- Herbicide management

NITROGEN

WHICH COVER CROPS SUPPLY N?

- Legumes (red clover)
- Grasses
- Radish

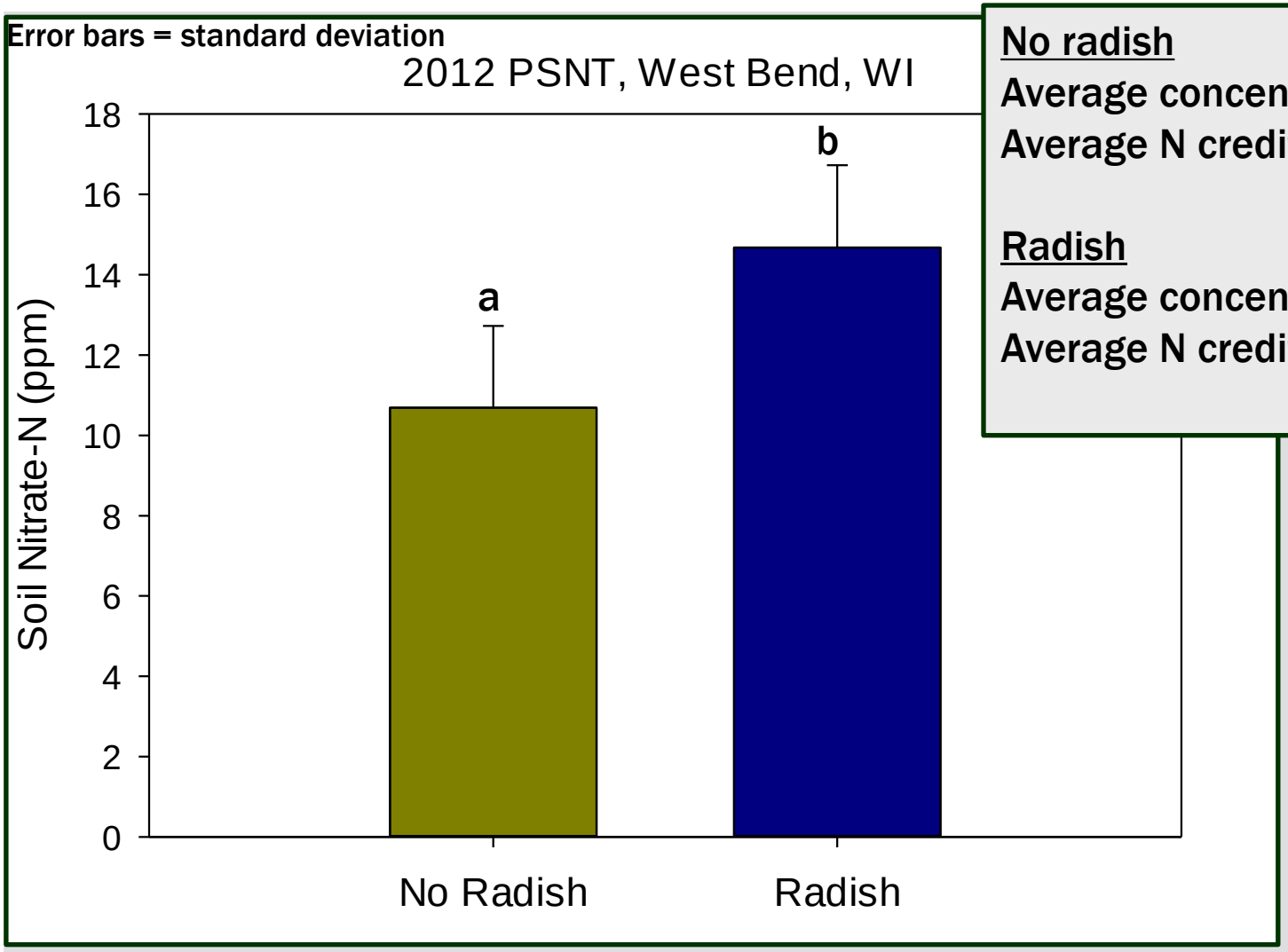
2012 PSNT (6/5/12)



- Large amount of variation in PSNT.
- Too variable to know if there is a real difference in PSNT values.

June 29, 2012

PSNT – WASHINGTON COUNTY



No radish
Average concentration: 11 ppm
Average N credit: 10 lb/ac

Radish
Average concentration: 15 ppm
Average N credit: 60 lb/ac

TWO KEY POINTS

1. Kill your cover crop early.
2. Take PSNT if sidedressing.

EROSION AND WATER

COVER CROP BENEFITS TO SOIL

- Help protect the soil from erosion,
  - Reduced raindrop impact
  - Less risk for crusts or surface seals
- Improve soil physical properties due to OM additions, root action and enhanced biological activity.
- Aid with nutrient cycling.

EROSION BENEFITS

- Cover crops that establish fast and produce high amounts of residue are recommended

Name	Seeding rate (lb/acre)			Erosion control	Fast growth	Nitrogen scavenging	Winter survival
	Drilled	*Broadcast*	*Aerial*				
Cereal rye	55 - 170	60 - 185	65 - 205	+++++	+++++	+++++	expected
Annual ryegrass	20 - 30	22 - 33	24 - 36	++++	+++++	++++	rarely
Winter wheat	60 - 150	65 - 165	70 - 180	+++++	++++	++++	expected
Radish (oilseed)	10 - 20	11 - 22	12 - 24	++++	+++++	+++++	rarely
Barley	50 - 75	55 - 83	60 - 90	++++	++++	++++	never
Oats	30 - 100	33 - 110	35 - 120	++++	+++++	++++	never

Legend: + - fair; ++ - low; +++ - good; ++++ - very good; +++++ - excellent

(adapted from Midwest Cover Crop Council; http://www.mccc.msu.edu)

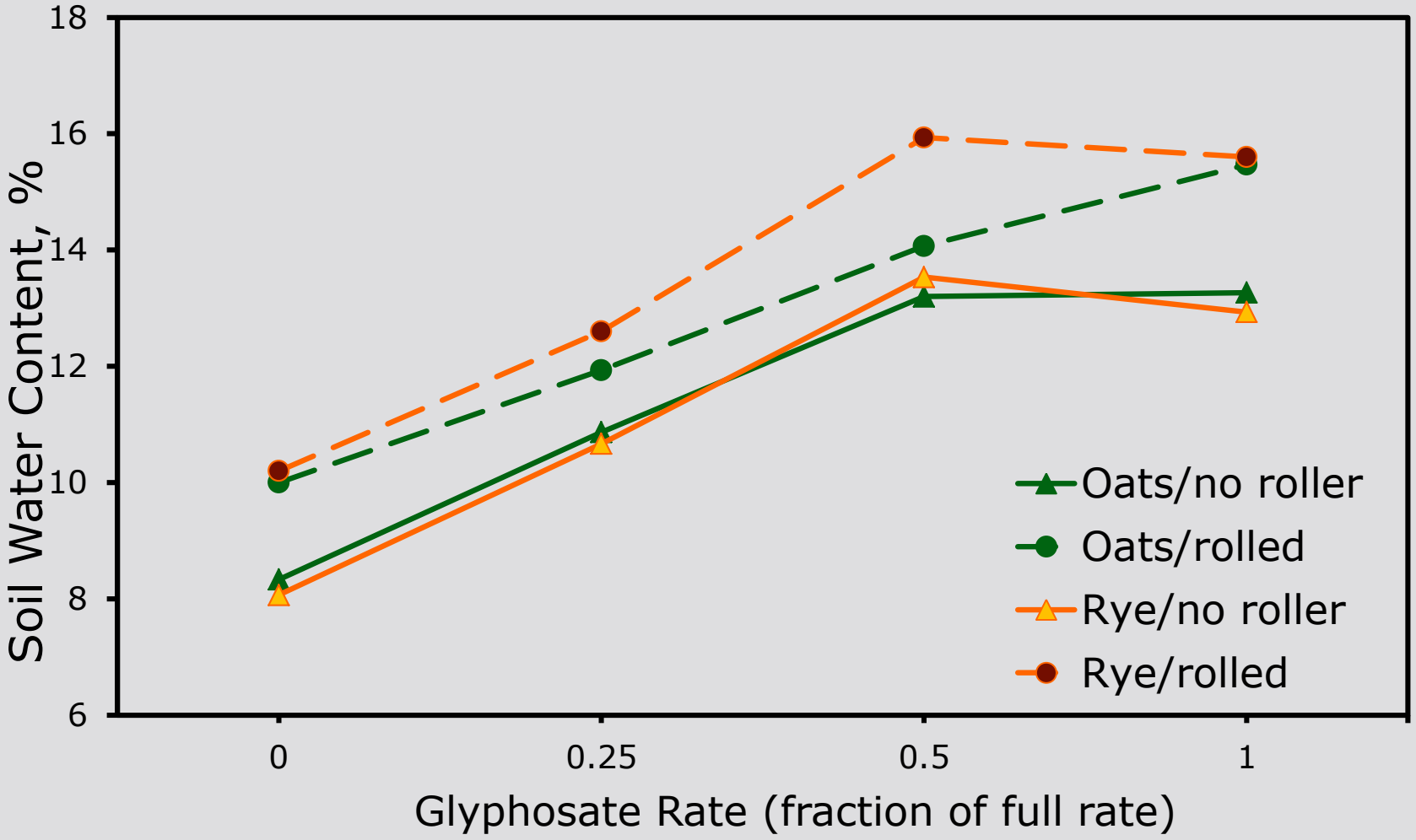
WATER DEFICIT IN SOIL PROFILE

- Assuming a 3’ deep rooting zone, a loamy soil with a 45% porosity will hold approx. 13” of water at FC.
- A corn crop will need about 24” of water to grow in a season.
- If approx. 80% of the water in the profile was depleted this past summer and little was recharged due to the drought, then about 10” of water are needed to recharge the profile.

WATER DEFICIT IN SOIL PROFILE

- Depending on the soil and other conditions, the amount of precipitation that actually infiltrates into the soil varies.
- Precipitation water will evaporate, and if any plants are actively growing, they will transpire water.
- Although only 10” of precipitation would be needed to recharge the soil profile, in reality a greater amount of water is needed due to losses.

COVER CROP AND SOIL WATER USE



HERBICIDE

COVER CROPS VS. FORAGE CROPS

NOT JUST SEMANTICS, IT CHANGES THE LEGAL OBLIGATING OF THE CROPPING SYSTEM

Vince M. Davis

WCM NEWSLETTER ARTICLES OF INTEREST

- July: **Forage harvest and re-crop considerations following these drought conditions**
  - http://ipcm.wisc.edu/blog/2012/07/forage-harvest-and-re-crop-considerations-following-these-drought-conditions/
- September: **Is it legal to use a cover crop as a forage crop? Maybe NOT…**
  - http://ipcm.wisc.edu/blog/2012/09/is-it-legal-to-use-a-cover-crop-as-a-forage-crop-maybe-not/
- September: **Herbicide carryover concerns—Challenges from the drought will keep on coming**
  - http://ipcm.wisc.edu/blog/2012/09/herbicide-carryover-concerns-challenges-from-the-drought-will-keep-on-coming/

FORAGE AND GRAZING RESTRICTIONS ARE HERBICIDE AND CROP SPECIFIC

2013 A3646 Pest Management in Wisconsin Field Crops

Table 2-4. Forage, grazing, and grain harvest intervals for corn herbicides[a]

Product	Forage/grazing interval	Grain harvest interval
Accent Q	30 days	no restrictions
Acetochlor	no restrictions	no restrictions
Acetochlor + atrazine	60 days	no restrictions
Alachlor + atrazine	21 days	no restrictions
Atrazine	60 days	no restrictions
Basagran	12 days	no restrictions
Basis Blend	30 days	30 days
Bicep Lite II Magnum	60 days	no restrictions
Buctril	30 days	apply before tassel emergence
Cadet	30 days	90 days
Callisto	45 days	45 days
Capreno	45 days	no restrictions
Dicamba	delay harvest until milk stage	no restrictions
Dual II Magnum	30 days	no restrictions
Fierce	no restrictions	no restrictions
Glyphosate–broadcast	50 days	7 days
G-Max Lite	60 days	no restrictions
Halex GT	45 days	45 days
Harmony SG/Unity	30 days	30 days
Hornet WDG	45 days	85 days
Ignite	60 days	70 days
Impact/Armezon	45 days	45 days
Laudis	45 days	no restrictions

University of Wisconsin–Extension

Learning for life

Is it legal to use a cover crop as a forage crop? Maybe NOT…….

September 20, 2012

Vince M. Davis, Department of Agronomy, UW-Madison/Extension
(608) 262-1392 vmdavis@wisc.edu,

There are a lot of people interested in establishing cover crops with the intention of harvesting them as an emergency forage crop due to the 2012 drought. Species that are often discussed range from traditional cereal grain crops like wheat, rye, and oat, to species that are less conventional like wild buckwheat and chicory. Much interest is even being driven by agencies that have lifted other restrictions on this practice. For example, there has been recent assistance put in place by USDA NRCS to help establish cover crops including the allowance for grazing and harvesting in some situations. More information can be found here: http://www.wi.nrcs.usda.gov/news/newsreleases/eqip12drought.htm. Additionally, the USDA has changed crop insurance rules for 2013 only to allow the production of cover crops and

IS IT LEGAL TO USE A COVER CROP AS A FORAGE CROP? MAYBE NOT… (HIGHLIGHTS)

- Cover crops are NOT harvested.
  - They are grown for an environmental benefit and left in the field
- Once material (grain or biomass) leaves the field with the purpose of entering the food and/feed chain, it is considered a ‘crop’ and all restrictions must be followed on subsequent pesticide labels used in that system.
- Labels are the law, read and follow label directions

CROP INSURANCE CHANGES

PREVIOUS CROP INSURANCE RULES PERTAINING TO COVER CROPS

- Suppose a farmer planted a cover crop in the summer/fall after harvesting another crop
  - This cover crop was not insurable
  - Could harvest/graze this cover crop that fall
- Next spring, had to terminate the cover crop before it reached the headed or budded stage
- Could not harvest the cover crop before planting a follow crop, but grazing was not harvest
- Perennial crop such as alfalfa could not be harvested before planting the follow crop

NEW CROP INSURANCE RULES PERTAINING TO COVER CROPS FOR 2013 ONLY

- Suppose a farmer planted a cover crop in the summer/fall of 2012 after harvesting another crop
  - This cover crop was not insurable
  - Could harvest/graze this cover crop during the fall of 2012
- Required and prohibited practices changed for farmers wanting to insure a crop planted in the spring of 2013 after a cover crop
- Cover crop must be planted during the 12 months before the insured crop

NEW CROP INSURANCE RULES PERTAINING TO COVER CROPS FOR 2013 ONLY

- Have to terminate the cover crop before it reaches headed or budded stage (NO CHANGE)
- Have to terminate the cover crop before planting the insured crop (CLARIFICATION)
- Can harvest the cover crop before May 10 and before planting the insured crop (DATE)
- Grazing now considered harvest, so must finish grazing before May 10 and before plant the insured crop (CLARIFICATION)
- Perennial crop (alfalfa) still cannot be harvested before planting the insured crop (12 month rule)

SUMMARY

- Farmers can harvest or graze cover crops for forage in the spring of 2013 and still insure the follow crop (RULE CHANGE)
- Must balance forage needs and prices against soil moisture and expected grain prices
  - Cover crops consume soil moisture, especially when removed from the field
- Better off with high yield/revenue and not collecting a crop insurance indemnity
  - If collect an indemnity, lost the full deductible

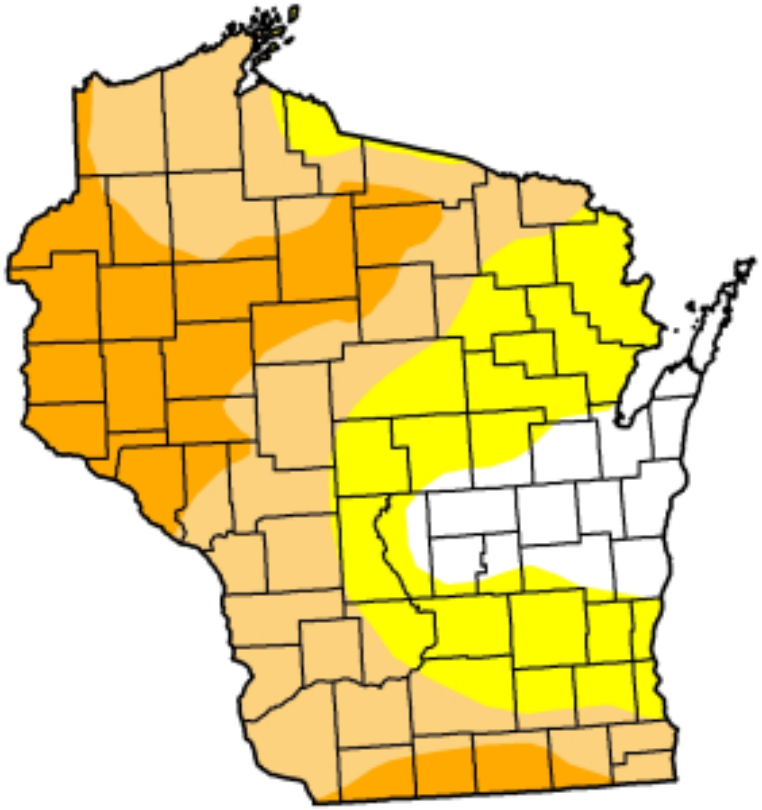
U.S. Drought Monitor

January 8, 2013
Valid 7 a.m. EST

Wisconsin

Drought Conditions (Percent Area)

	None	D0-D4	D1-D4	D2-D4	D3-D4	D4
Current	11.49	88.51	61.87	24.48	0.00	0.00
Last Week (01/01/2013 map)	11.50	88.50	61.46	24.48	0.00	0.00
3 Months Ago (10/09/2012 map)	0.43	99.57	87.24	51.29	9.93	0.00
Start of Calendar Year (01/01/2013 map)	11.50	88.50	61.46	24.48	0.00	0.00
Start of Water Year (09/25/2012 map)	0.49	99.51	61.25	35.35	8.66	0.00
One Year Ago (01/03/2012 map)	58.43	41.57	0.00	0.00	0.00	0.00



Intensity:

- D0 Abnormally Dry
- D1 Drought - Moderate
- D2 Drought - Severe
- D3 Drought - Extreme
- D4 Drought - Exceptional

The Drought Monitor focuses on broad-scale conditions. Local conditions may vary. See accompanying text summary for forecast statements.

http://droughtmonitor.unl.edu

Released Thursday, January 10, 2013
David Simeral, Western Regional Climate Center

COMMENTS?
QUESTIONS?
CONCERNS?