2022 Season in Review

2023 Advanced Crop Advisers Workshop

Jodi Boe
Agronomist, AGVISE Laboratories

Wet start

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In-season Nitrogen Testing

- PSNT: Pre-sidedress nitrate test (corn)
- 0-12 cores, across row
- Analyze samples for ammonium-N and nitrate-N
- Meant to be an index of the soil's capacity to supply crop available N
- Sample when corn plants 6-12" tall, or early June

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Another bad year for IDC

- Excess nitrate exacerbated IDC conditions

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Late-season Potassium Deficiency

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Liming is feasible in North Dakota

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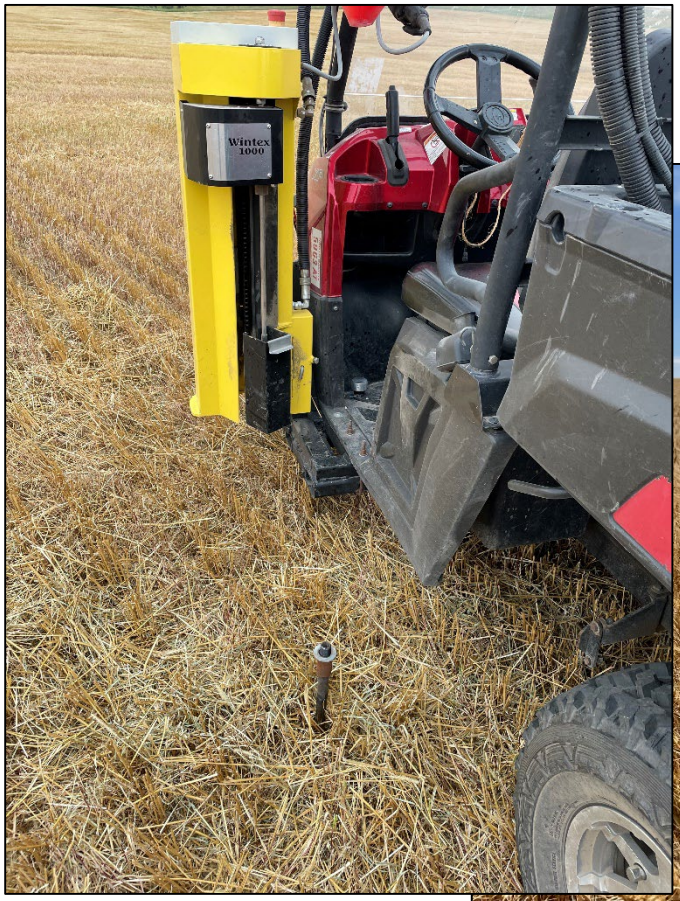
Great ending



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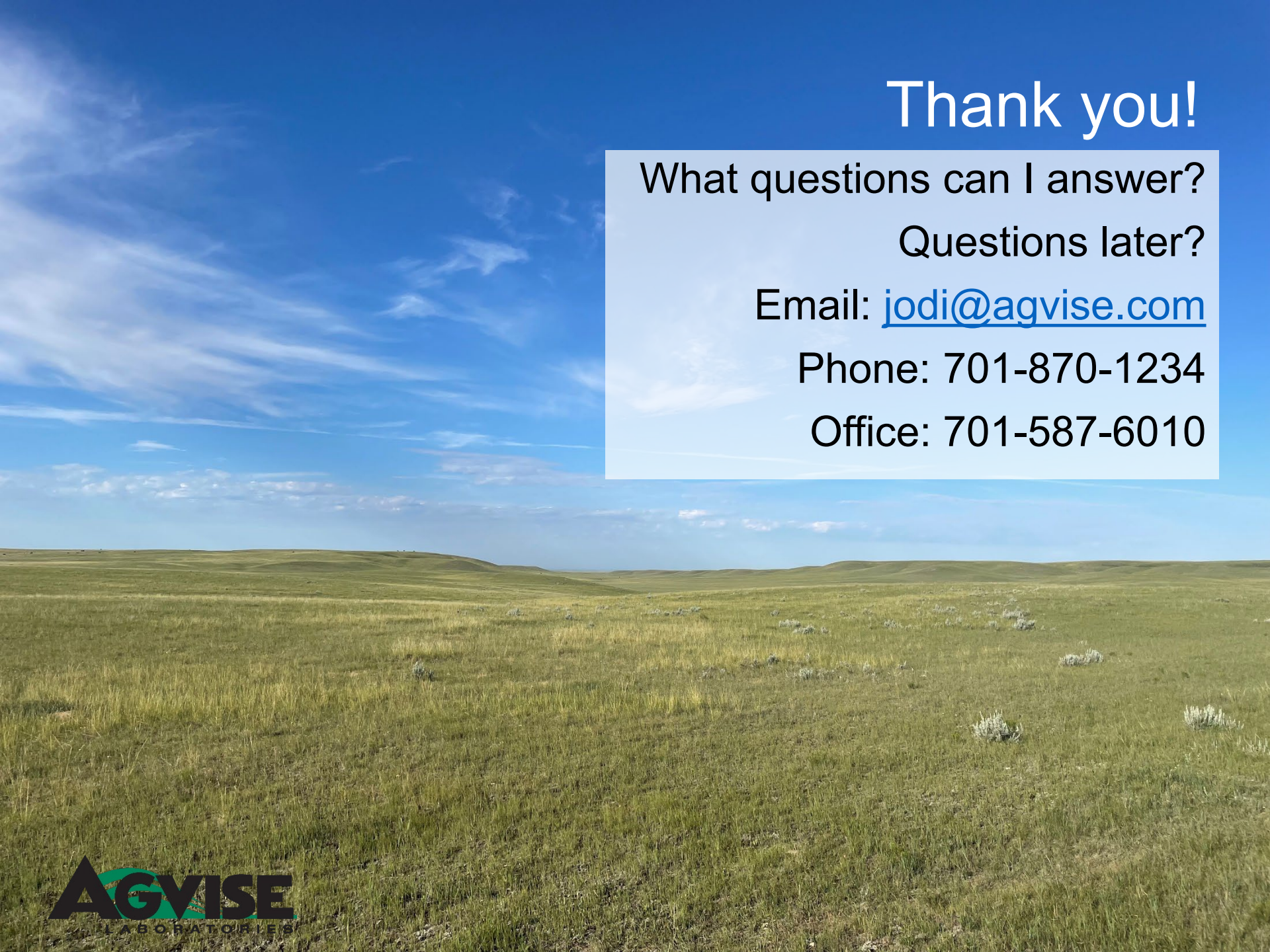

Thank you!

What questions can I answer?

Questions later?

Email: jodi@agvise.com

Phone: 701-870-1234

Office: 701-587-6010

But we just have high pH soils here?

"Approximately 17% the state acreage has a pH lower than 6.5 and conceivably could respond to limestone fertilization in sensitive crops."

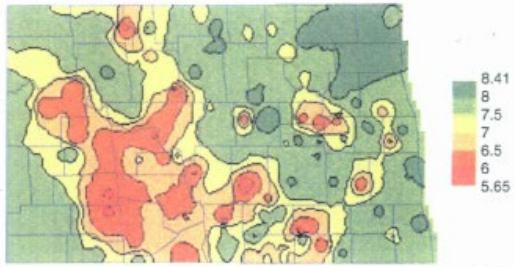

Figure 4. Soil pH levels, upland positions, non-manured sites, 1998.

pH range: 5.65 to 8.41

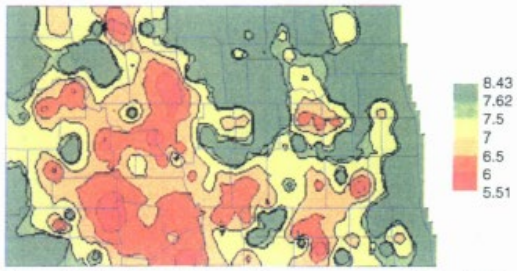

Figure 5. Soil pH on sloping positions on non-manured sites, 1998.

pH range: 5.51 to 8.43

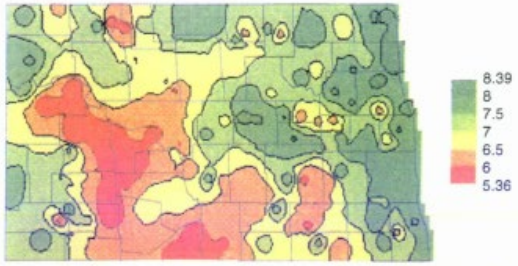

Figure 6. Soil pH in depressional areas, non-manured sites, 1998.

pH range: 5.36 to 8.39

Franzen, 1999 Soil Copper, pH, Zinc, and Boron Levels

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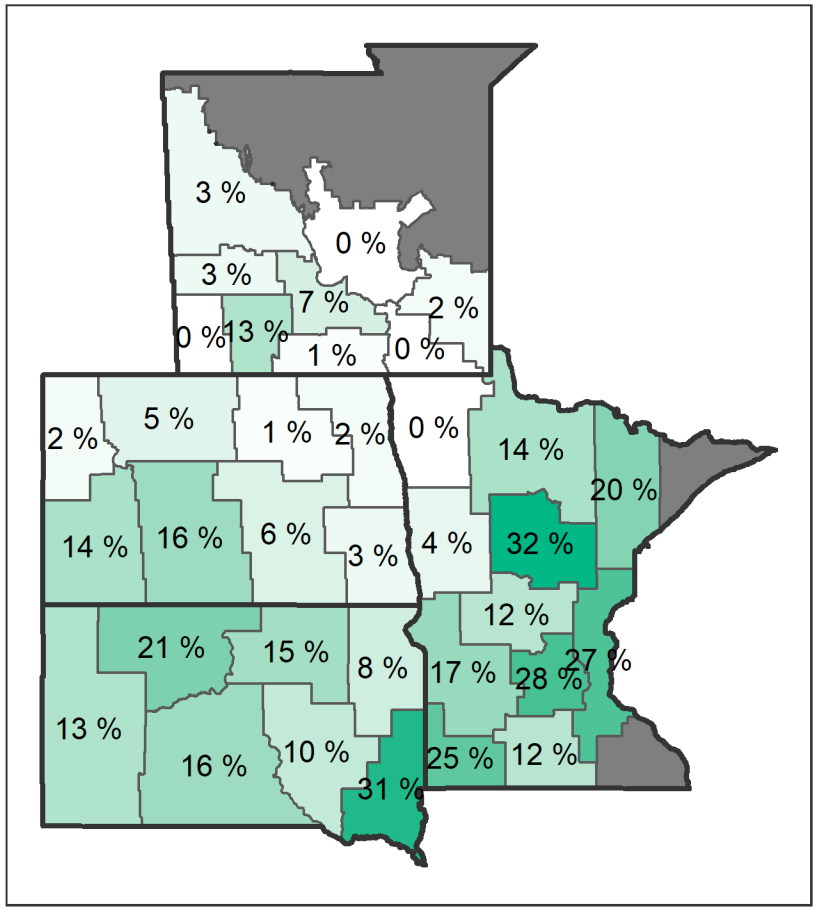
Soil samples with soil pH below 6.0 in 2022



Percent of samples (0-6 inch)

30
20
10
0

Data not shown where n< 100
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AGVISE Western ND Lime Project

Objective: determine the amount of surface-applied lime required to raise pH to 6.5 and determine how long the effect lasts

Site: Golden Valley, ND
Grail silty clay loam
average initial soil pH:

- 0-3”: 5.2
- 3-6”: 5.4

average initial buffer pH:

- 0-3”: 6.3
- 3-6”: 6.4

Treatments: 0 to 2.5 tons/A ENP, surface-applied (lime product had 1,782 lbs ENP/ton)

Trial Initiated: May 5, 2021

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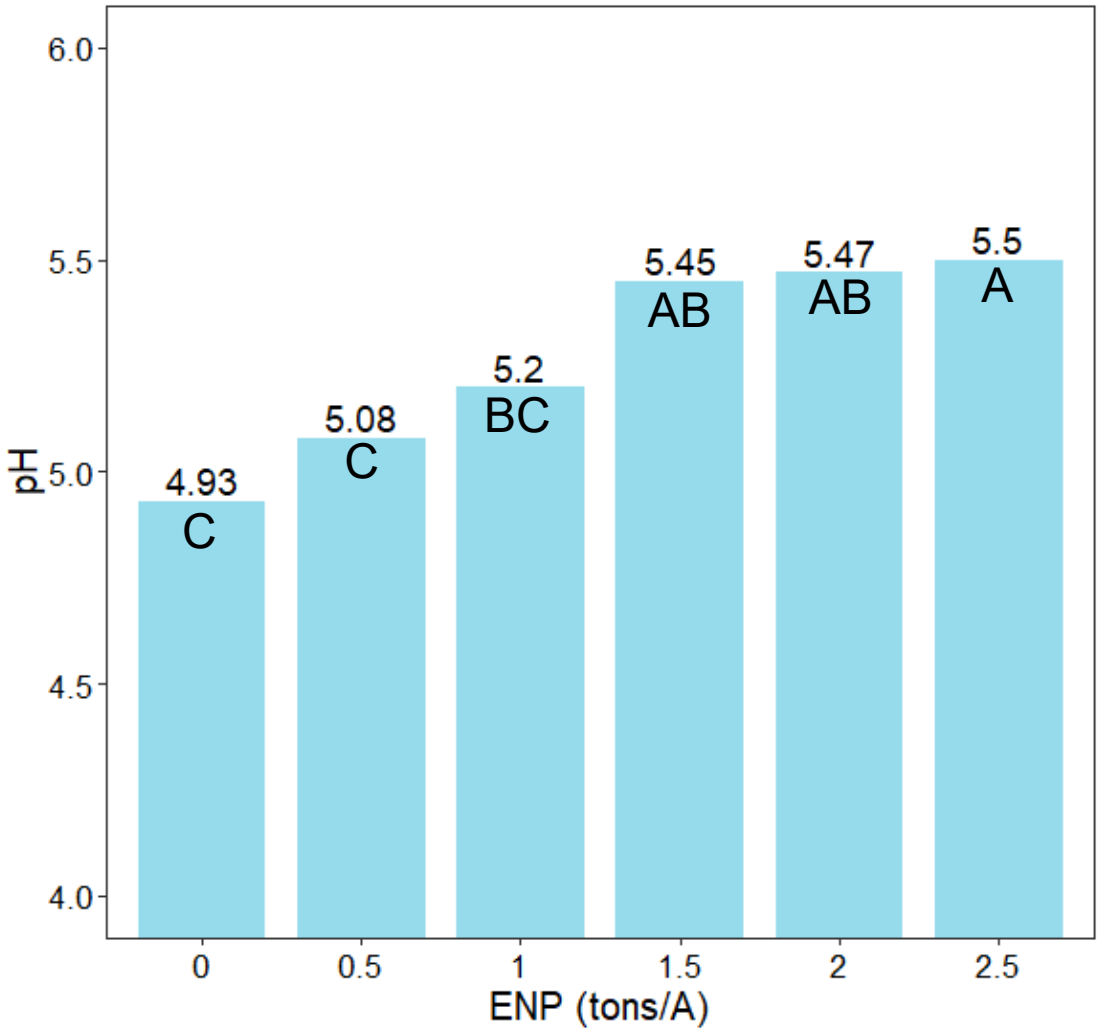
Effect of lime on soil pH, 1.25 years after application, 0-3” depth



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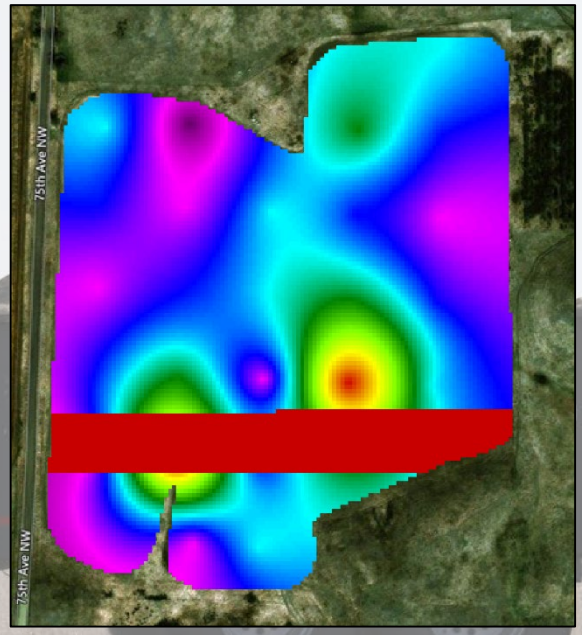
Cost of liming in W ND in 2022

- $0/ton Beet lime from Sidney Sugar in Sidney, MT
- $39/ton to haul lime ~ 136 miles
- $16.50 + $5.00 for every additional ton/acre
- Approximately $100/acre
- Flat rate of 2 ton beet lime/acre
- One field VRT based on 1-acre grid (0 to 4 ton beet lime/acre)
- Lime disced to 3” after application



VRT map made GK Technology Inc.’s ADMS 32

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