



# NDSU

## Fall Fertilizer Degradation Trial Results





# Fall Fertilization and P Tie-Up

Fall fertilization is a widely adopted practice across North America, whether broadcast or banded. Benefits are many, such as decreased spring workload, reduced spring compaction, etc.

The challenge present is the potential tie-up of fall applied phosphorous in soils with low and high pH, where calcium, aluminum, or iron bind to phosphorous, making it unavailable to the crop.

The unknown element is how much phosphorous is actually tied up in a fall applied scenario.



# The Grower Trend We Started to see

As growers embraced Crystal Green into their spring fertilizer program and the expansion moved into traditional fall fertilizer areas, these growers started a new practice- incorporating Crystal Green into the regular fall fertilizer program with MAP.

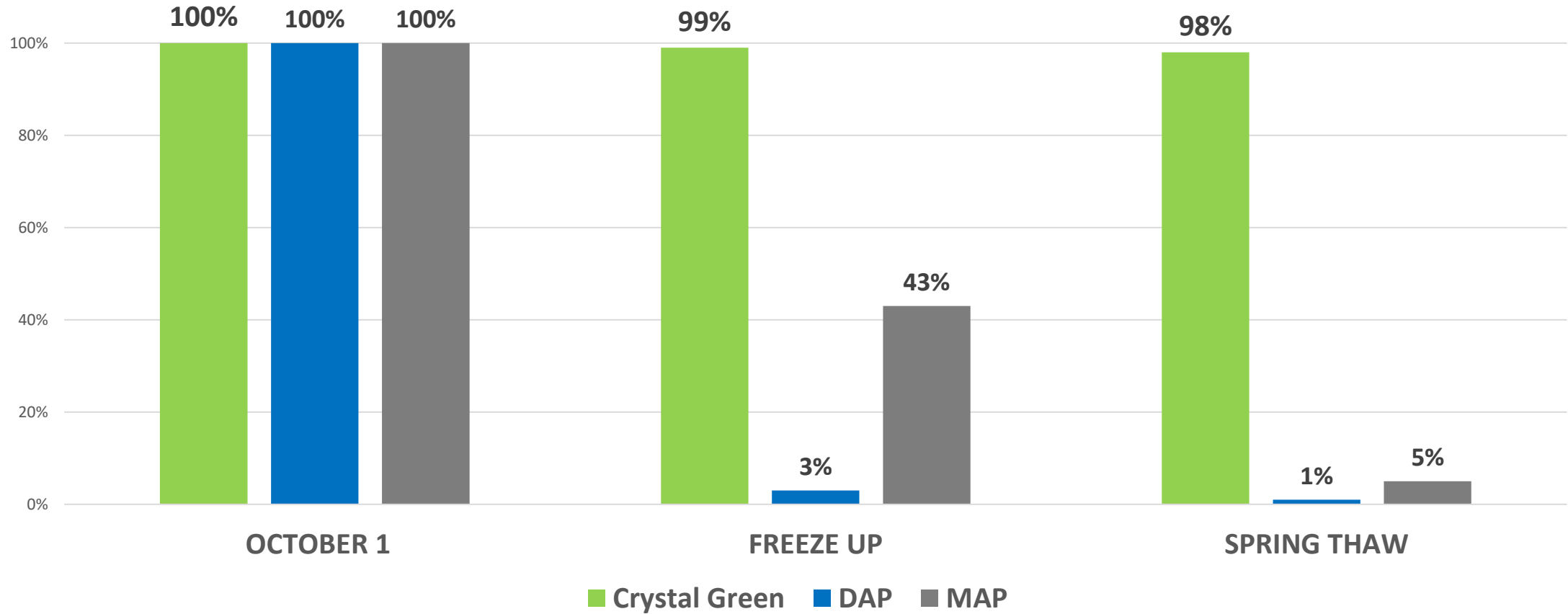
To understand this unique 'overwintering' ability we engaged the NDSU to conduct a fall degradation study.

# Fall Degradation Study

- Due to the Extremely Low Water Solubility (4%) of Crystal Green, we have had Many customers start to Fall Apply it in 2017
- Fall 2017 - Engaged Dr. Joel Ransom at NDSU to conduct a Fall Degradation Study using the same method he used to do the original ESN Fall Degradation Study
- Comparisons against MAP, DAP and TSP are under study
- Data so far is nothing short of amazing and has huge implications in soils where P tie-up occurs

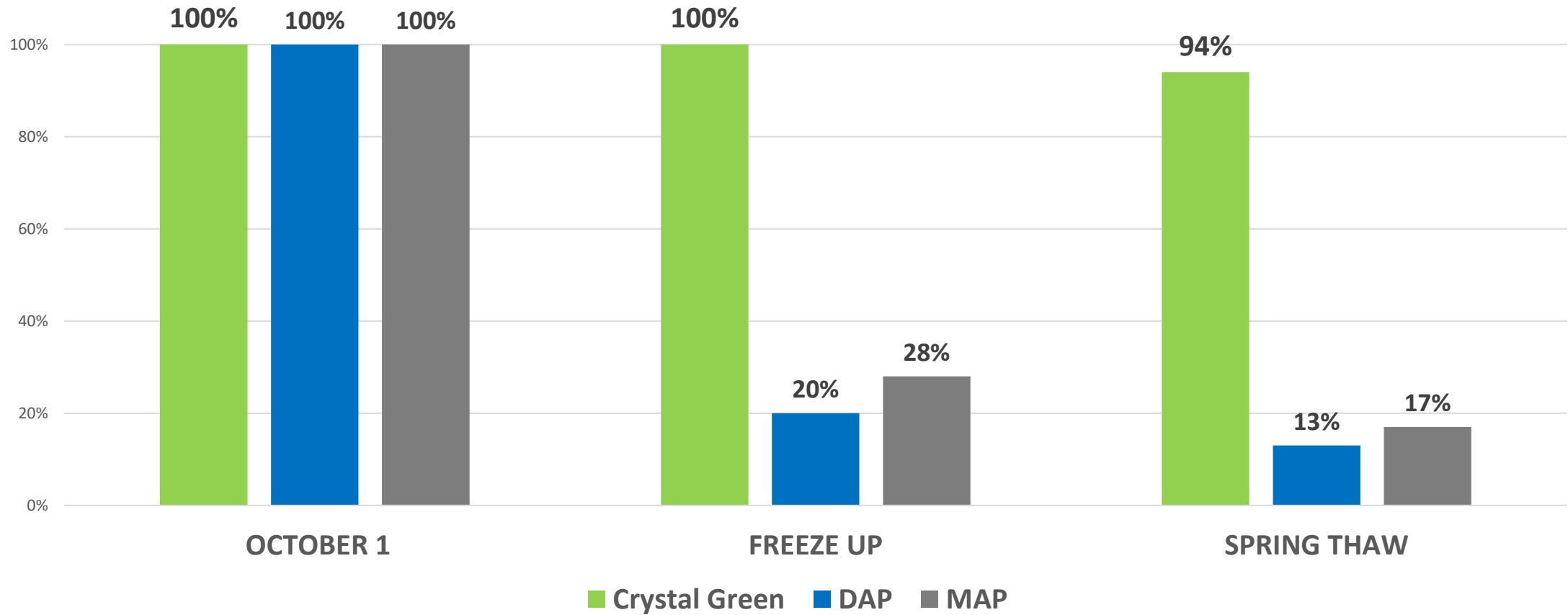


# Fall Application Trial – NDSU – % of Each Fertilizer Remaining Broadcast Applied to Surface (0 Inches)



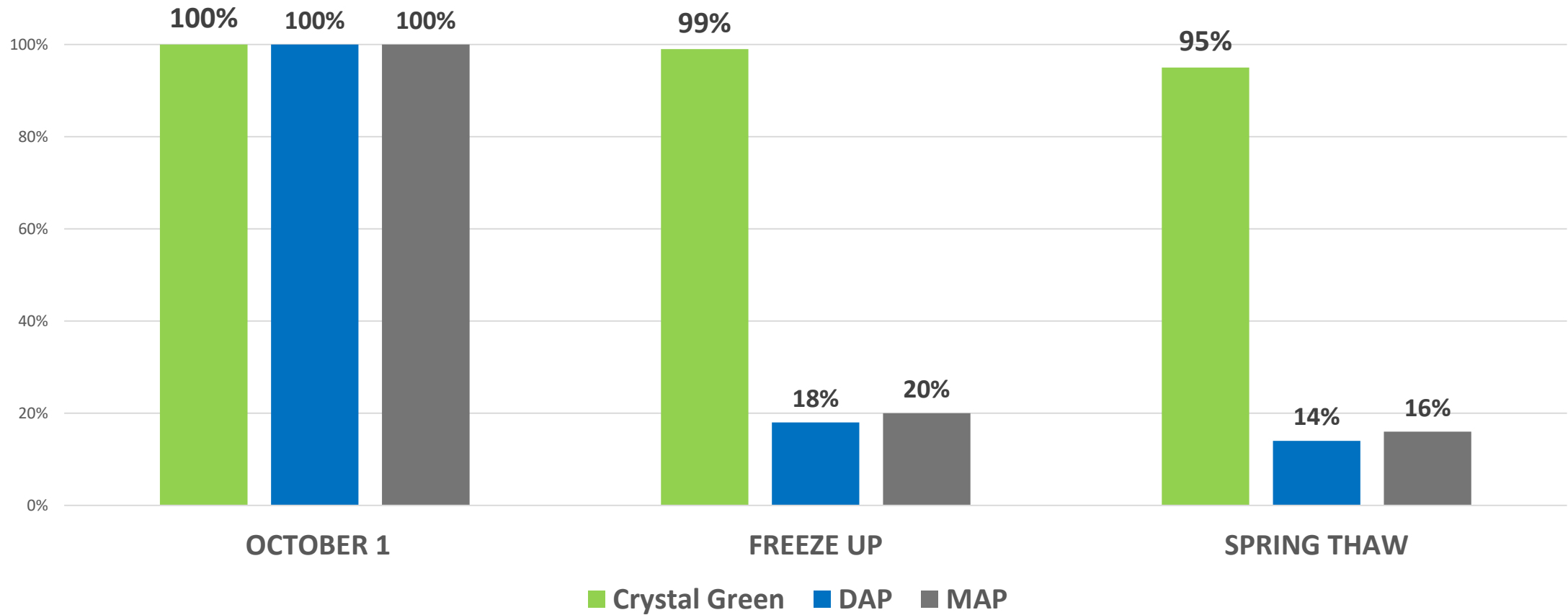


# Fall Application Trial – NDSU – % of Each Fertilizer Remaining Banded Below Surface (2 Inches)



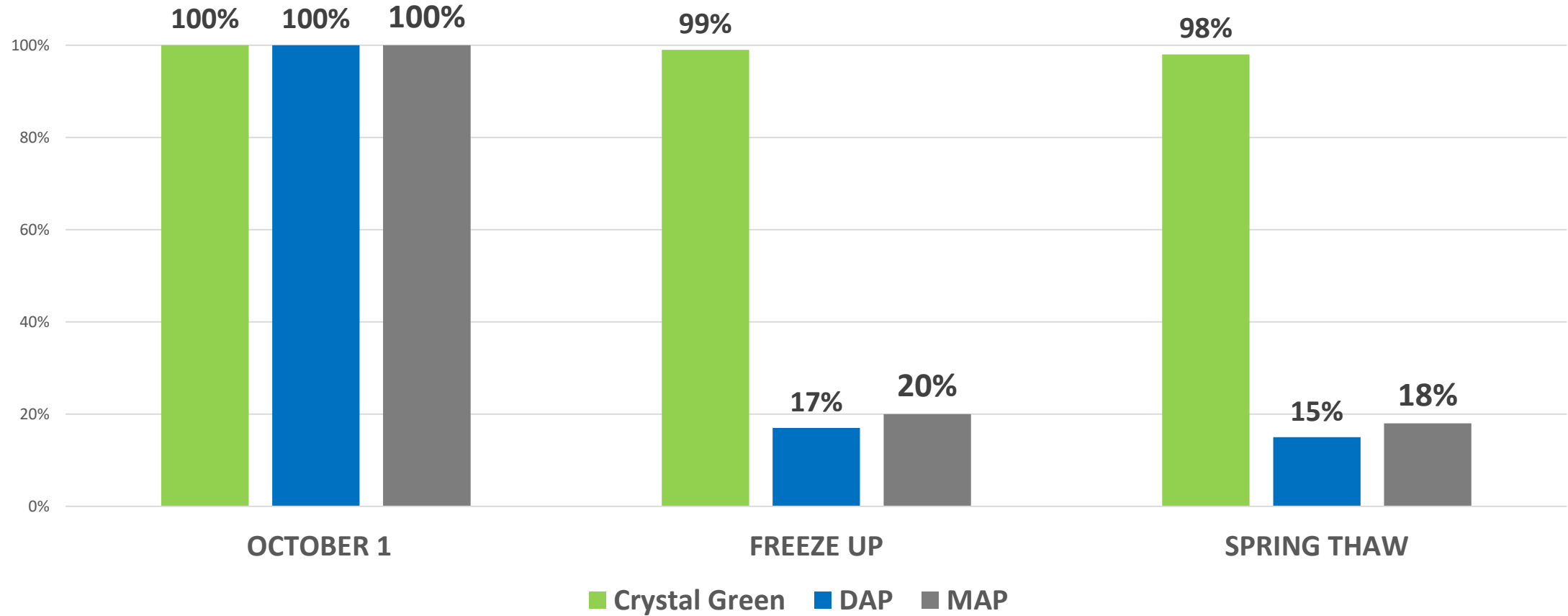


# Fall Application Trial – NDSU – % of Each Fertilizer Remaining Banded Below Surface (4 Inches)





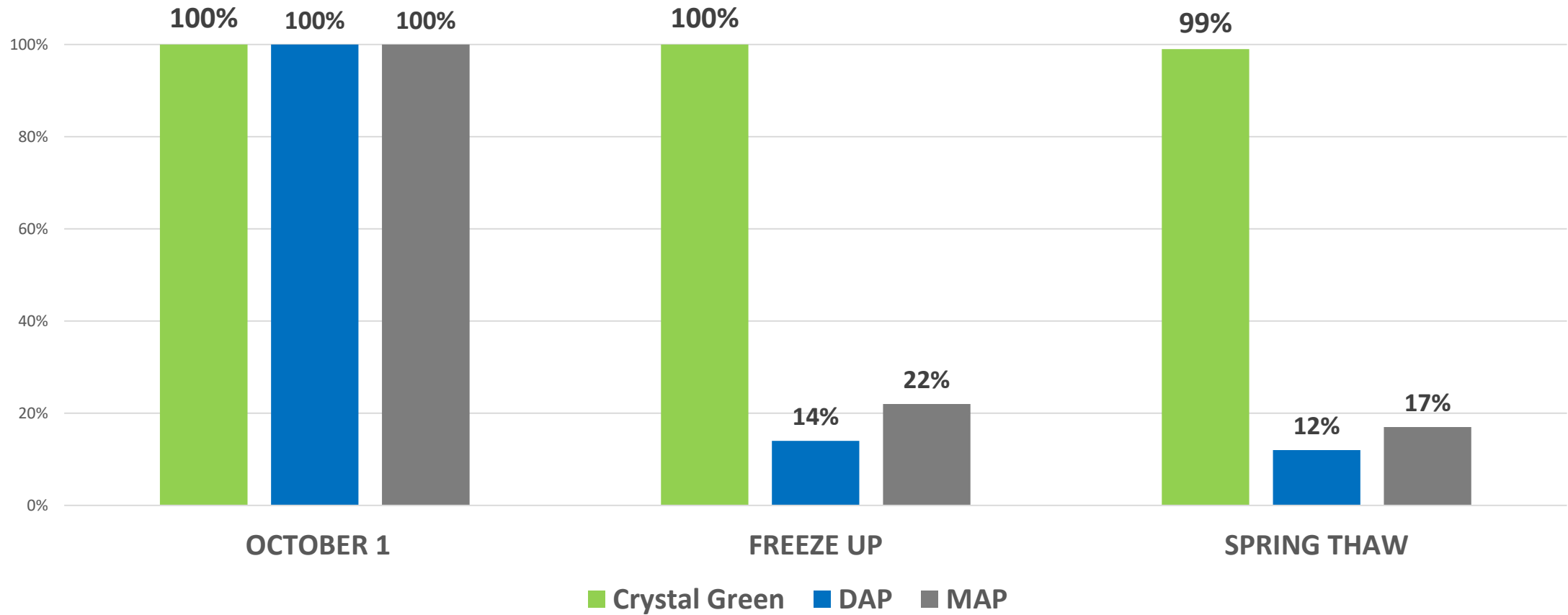
# Fall Application Trial – NDSU – % of Each Fertilizer Remaining Banded Below Surface (6 Inches)







# Fall Application Trial – NDSU – % of Each Fertilizer Remaining Banded Below Surface (8 Inches)



# Results Summary

- Across all Depths, Crystal Green remained 94% to 98% available for the Spring Planted Crop (97% average)
- In comparison:
- MAP: only 5% to 18% remained by Spring, lowest % in Broadcast scenario at 5% (15% average)
- DAP: only 1% to 15% remained by Spring, lowest % in Broadcast scenario at 1% (11% average)

crystalgreen@Taurus.ag  
crystalgreen@Taurus.ag



**CrystalGreen**<sup>®</sup>  
5-28-0 with 10%Mg

**Interested in learning more?**

Contact us: [crystalgreen@taurus.ag](mailto:crystalgreen@taurus.ag)