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Phosphorus – Testing our adequacy thresholds.

For healthy and productive sugarbeets, Amalgamated Sugar recommends soil test phosphorus (P) of at least 20-25 ppm-P in a 0–12-inch soil sample prior to planting. Although this critical threshold range has served us well for many years, we are often questioned by growers about why our P thresholds are so much lower than many of the commercial crop advisor companies that also service our industry. It is not uncommon for these advisors to recommend 100 lb or more P₂O₅ than we would for the same field. This discrepancy has led to some Amalgamated consultants and growers having a lack of confidence in our P recommendations. To address this, we established a phosphorus research trial over two years in 2021 and 2022. This micro-plot study evaluated sugarbeet productivity across a range of soil P levels from 5 ppm-P to 65 ppm-P. In addition, we also tested the ability of P-deficient beets to recover yield when amended with P₂O₅ at 2 or 4-leaf stage. Results showed that our current threshold range (20-25ppm-P) is adequate and that further increases in P level do not result in any additional yield or sugar.

