

Figure 1. Soil test values from each spring and fall from 2019 to 2021 by farm (#1 to 6) along a north-to-south, 240-km transect from Cache to Juab Counties in Northern Utah. A) soil pH, B) soil salinity, C) Olsen soil test total available phosphorus (P), and D) Olsen soil test total available potassium (K), representing 0 to 30 cm depths in the soil. E) Total soil nitrate-nitrogen (NO_3^- -N) from 0 to 60 cm depths in the soil. Pink shading represents values that are considered high to excessive for crop production.

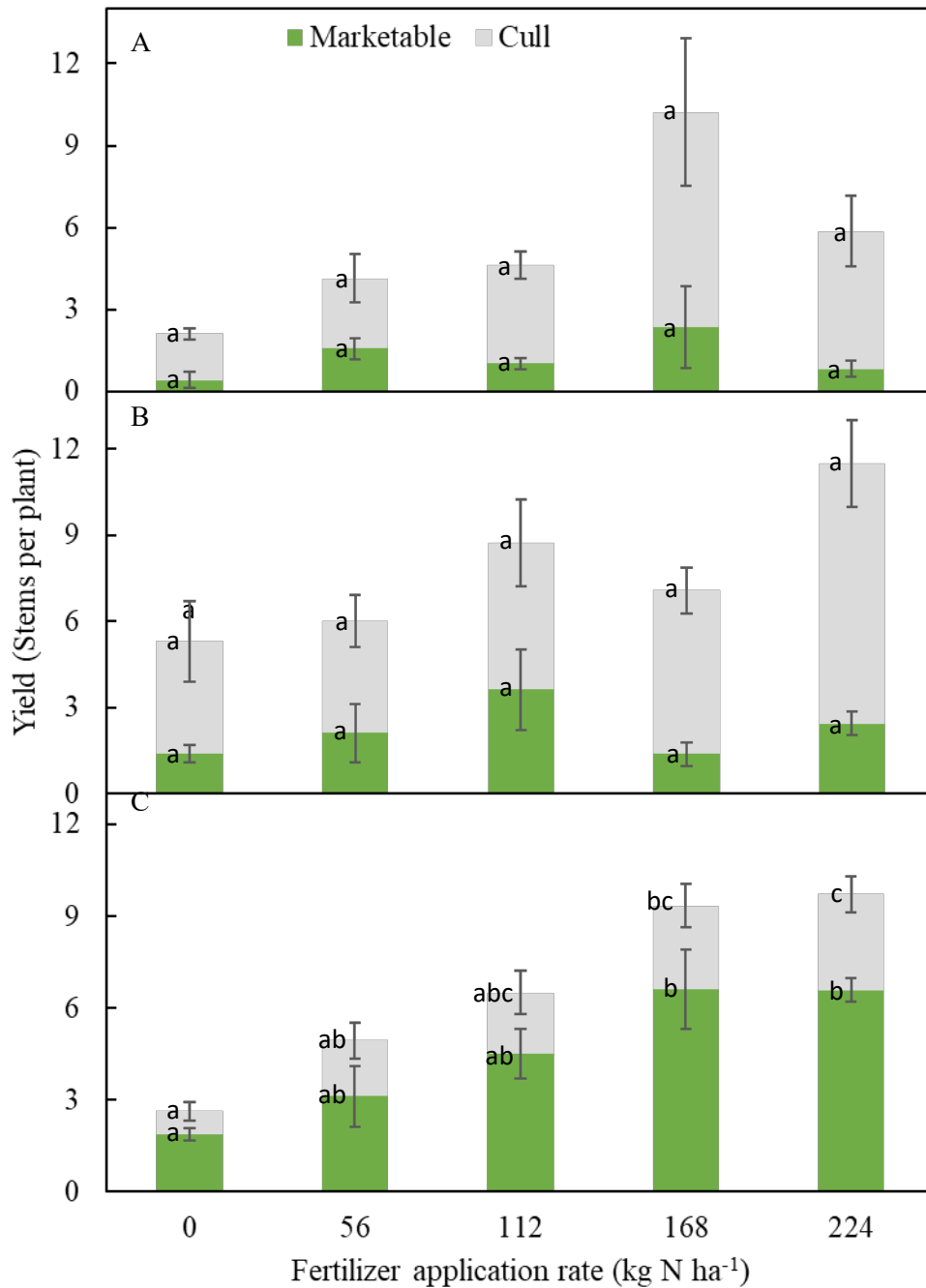


Figure 2. Mean (\pm SE) yield as the total of marketable (green bars) and cull (gray bars) stems per plant by nitrogen (N) fertilizer application rate of 0, 56, 112, 168, and 224 kg ha⁻¹ and growing year A) 2019, B) 2020, and C) 2021. Lower-case letters indicate significance among nitrogen rates each year according to Tukey HSD test at $\alpha = 0.05$.

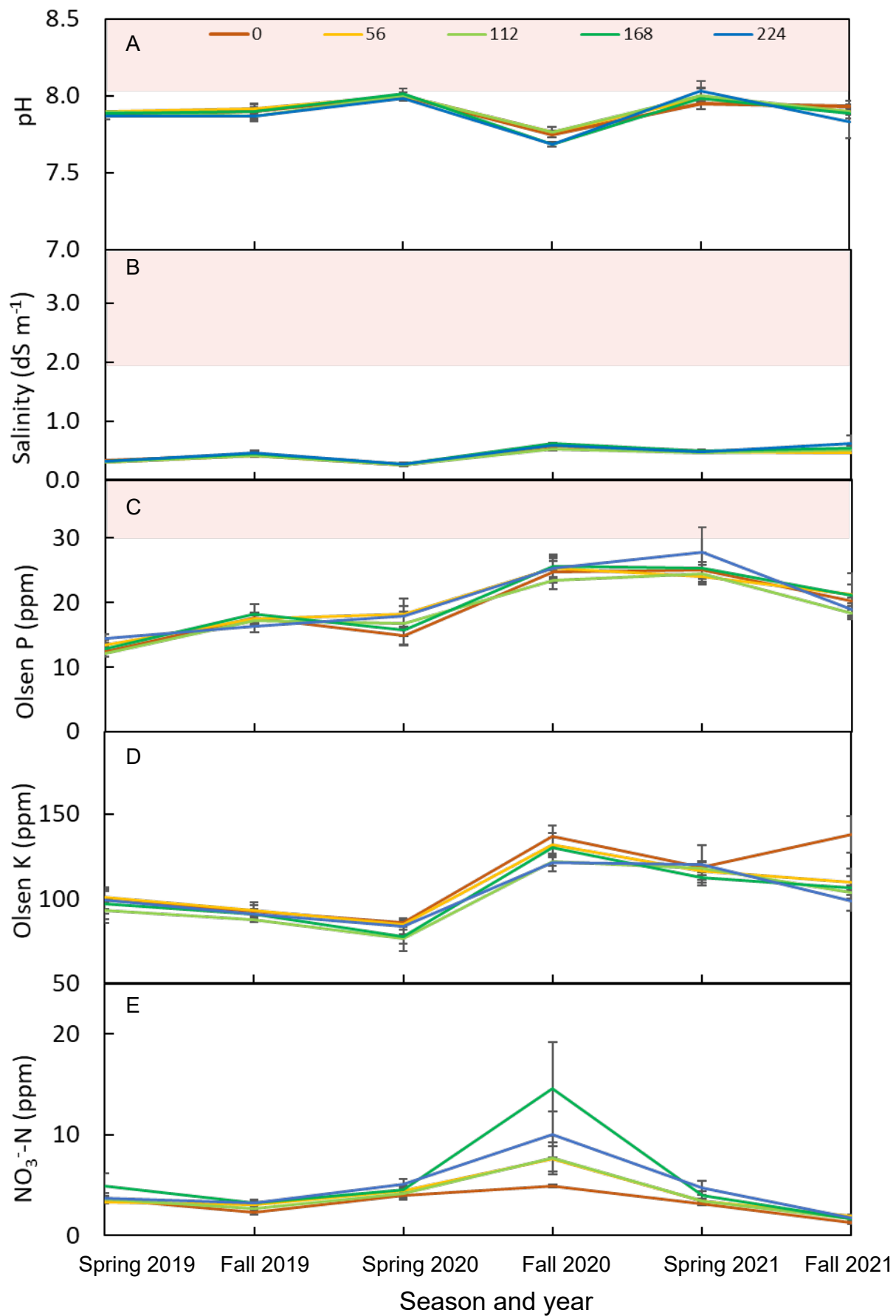


Figure 3. Soil test values from each spring and fall from 2019 to 2021 at the Utah Agriculture Experiment Station – Greenville Research Farm in North Logan, Utah. A) soil pH, B) soil salinity, C) Olsen soil test total available phosphorus (P), and D) Olsen soil test total available potassium (K), representing 0 to 30 cm depths in the soil. E) Total soil nitrate-nitrogen (NO_3^- -N) from 0 to 60 cm depths in the soil. Pink shading represents values that are considered high to excessive for crop production.

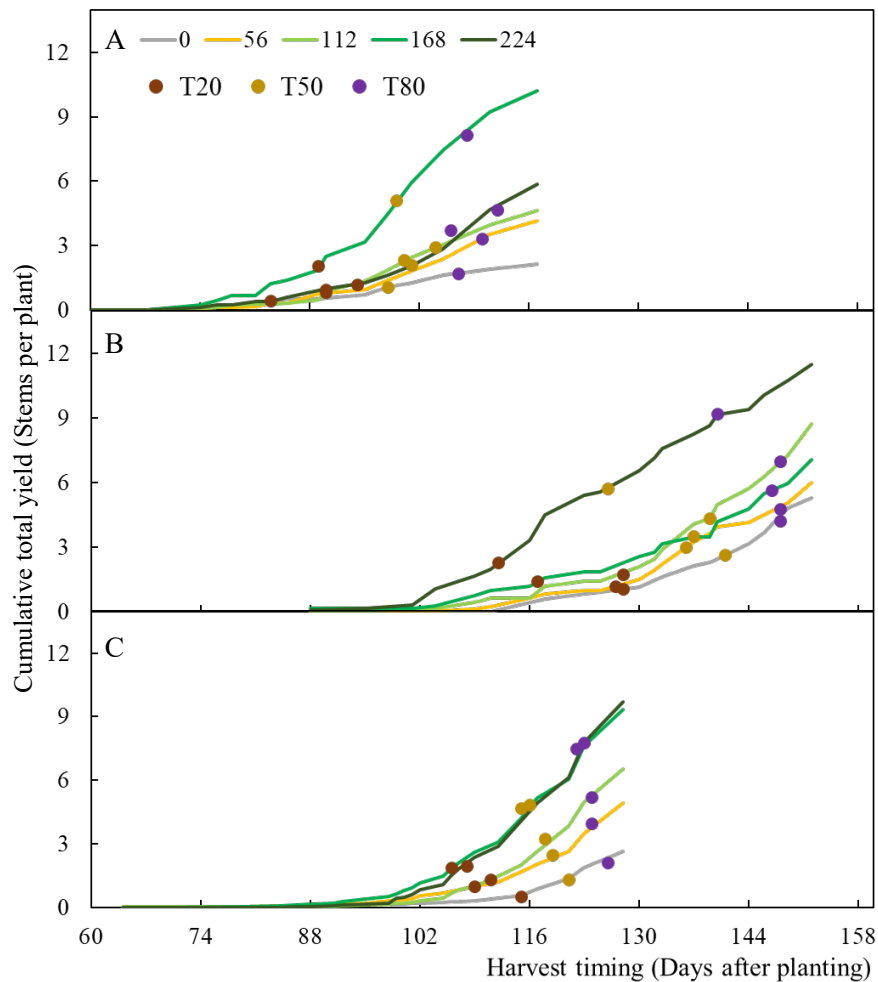


Figure 4. Cumulative yield (marketable plus culled stems) in stems per plant for each nitrogen rate (0, 56, 112, 168, and 224 kg N ha⁻¹) across each growing season in A) 2019, B) 2020, and C) 2021 at the Utah Agricultural Experiment Station – Greenville Research Farm. The mean timing of 20% (T20, red circles), 50% (T50, yellow circles), and 80% (T80, purple circles) of the total cumulative yield by application rate are also given. Plants that succumbed to virus pressure were excluded from this figure.