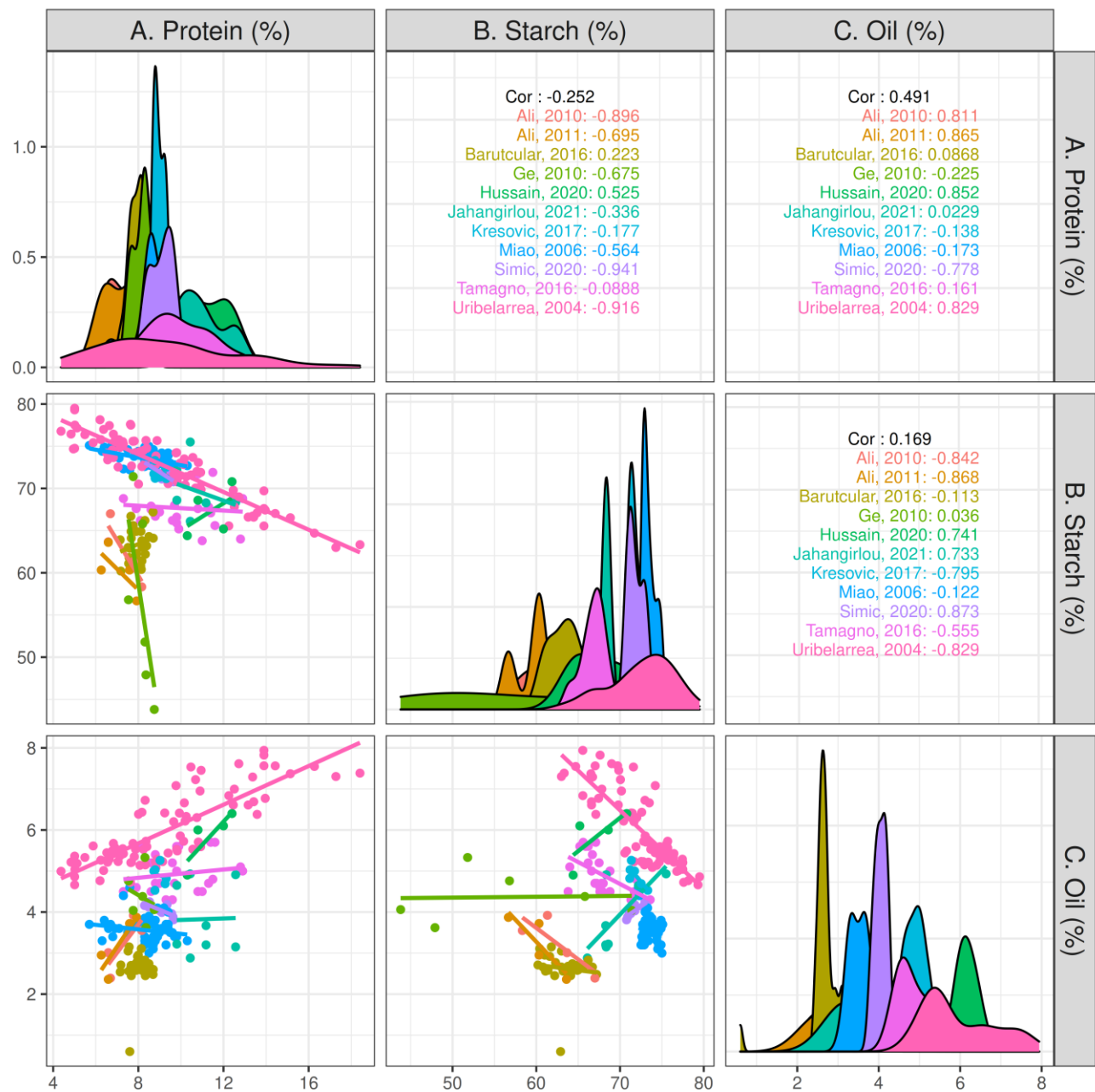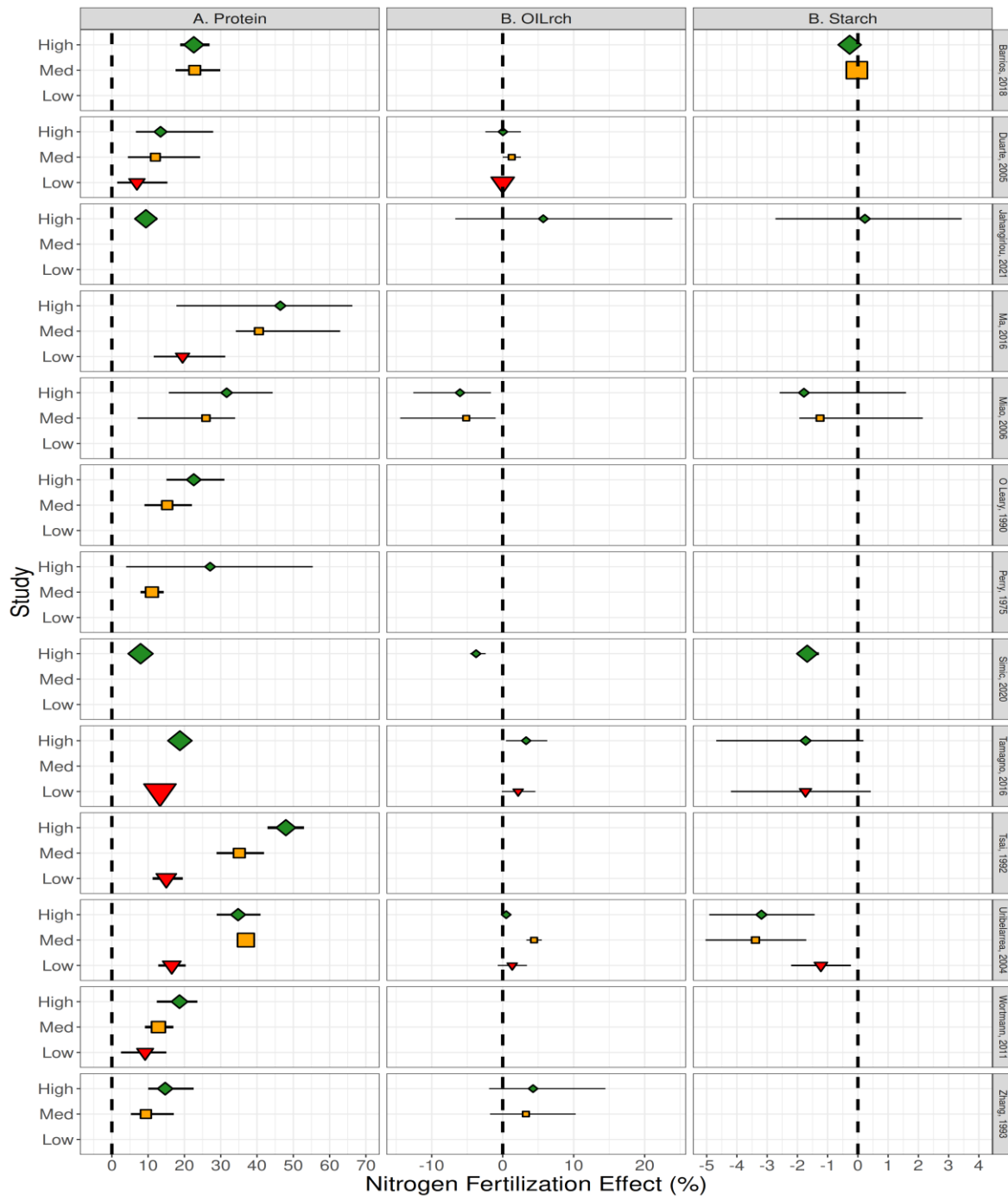# Supplementary material

Supplementary Figure S1. Correlation matrix between protein concentration (%), starch concentration (%), and oil concentration (%) split by study quantifying the three variables (n = 239) (**Table 1**).

Supplementary Figure S2. By-study summary of effect sizes (%) of nitrogen fertilization on maize grain quality components (A – Protein, B – Starch, and C – Oil) considering the rate level (Low -<70 kg N ha^{-1}-, Med -71-150 kg N ha^{-1}-, and High ->150 kg N ha^{-1}-). Within each variable, symbols represent the mean effect, shape size represents the weight, and whiskers their respective 95% confidence intervals (CI, whiskers), which were transformed from lnRR into percentage (exp(lnRR)-1*100), as the protein, starch or oil concentration variation in N fertilized compared to their respective control (0 kg N ha^{-1}).