

Review of: "Technological quality of wheat grains and flour as affected by nitrogen fertilization and weather conditions"

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The authors report on a 2016 study conducted at 3 locations under contrasting moisture regimes and N management practices to determine effects to wheat quality. I should first add that this is my first foray into this unique ecosystem of peer review, which I'm still navigating and assessing as I don't know if the published reviews help or negatively influence those reviews that follow. In any event, this manuscript, while generally comprehensive in nature with respect to reviewing the body of work on N mgmt effects on wheat quality in a south American context, does unfortunately contain fatal flaws as follows:

1. The lack of replication over time provides only 3 environments in a single growing season. This is grossly inadequate given how important moisture and weather are for driving responses of GxN mgmt. This would need to be repeated across at least 2 additional growing seasons to adequately test hypotheses of this nature.
2. It is fairly apparent an agronomist was not part of the team given the N mgmt structure and design. First, the results are immediately confounded by not having some sort of 0N control and also by having 24 kg N/ha supplemented at the time of planting, which is likely why the 40kg N/ha influenced responses as much as it did given that it was actually 64kg N/ha. I also didn't note any report of soil N test results as even more N could have been provided via soil residual N mineralization during the growing season, which would further enhance responses to the 40 kg N/ha level, which would have been indicated by a 0N control. Lastly, the banded rate of fertilizer seems very high, so I don't know how this rate was determined. The amount of P₂O₅ applied seems to be almost double what might be needed but, again, a presentation of background soil nutrient levels and local practices would have been helpful.