

# Corrigendum: using a crop modeling framework for precision cost-benefit analysis ...

[Health & Medicine](#)



A Corrigendum on

[Using a Crop Modeling Framework for Precision Cost-Benefit Analysis of Variable Seeding and Nitrogen Application Rates](#)

by McNunn, G., Heaton, E., Archontoulis, S., Licht, M., and VanLoocke, A. (2019). *Front. Sustain. Food Syst.* 3: 108. doi: [10.3389/fsufs.2019.00108](https://doi.org/10.3389/fsufs.2019.00108)

In the original article, there was an error. The authors would like to further expand on the specific novel innovations developed from this work compared to similar modeling studies that were developed independently over the same time period.

A correction has been made to *Introduction*, *Paragraph 5*:

“ Similar frameworks linking public soils and weather data with environmental models (including APSIM) have been implemented ( [Zhang et al., 2010](#) ; [Brandes et al., 2018](#) ; [Jin et al., 2019](#) ) and found support for individual precision management options in terms of economic and environmental factors. The novel component of our analysis is that we developed a system for guiding subfield management decisions based on multiple economic cost drivers (seed and N-fertilizer inputs) that directly influence potential yield ( [Al-Kaisi and Yin, 2003](#) ) and interact with subsequent environmental performance and profitability.”

A correction has been made to *Discussion*, *Paragraph 2*:

“ Similar geographical focus was given in [Jin et al. \(2019\)](#), which used an APSIM framework to estimate regional economic optimum nitrogen fertilizer

<https://assignbuster.com/corrigendum-using-a-crop-modeling-framework-for-precision-cost-benefit-analysis-of-variable-seeding-and-nitrogen-application-rates/>

rates based on subfield management zone simulations across many Midwest fields.”

The authors apologize for this error and state that this does not change the scientific conclusions of the article in any way. The original article has been updated.

## References

Al-Kaisi, M., and Yin, X. (2003). Effects of nitrogen rate, irrigation rate, and plant population on corn yield and water use efficiency. *Agron. J.* 95, 1475–1482. doi: 10. 2134/AGRONJ2003. 1475

[CrossRef Full Text](#) | [Google Scholar](#)

Brandes, E., McNunn, G. S., Schulte, L. A., Muth, D. J., VanLoocke, A., and Heaton, E. A. (2018). Targeted subfield switchgrass integration could improve the farm economy, water quality, and bioenergy feedstock production. *GCB Bioenergy* 10, 199–212. doi: 10. 1111/gcbb. 12481

[CrossRef Full Text](#) | [Google Scholar](#)

Jin, Z., Archontoulis, S. V., and Lobel, D. B. (2019). How much will precision nitrogen management pay off? An evaluation of simulating thousands of corn fields over the US Corn-Belt. *Field Crops Res.* 240, 12–22. doi: 10. 1016/j. fcr. 2019. 04. 013

[CrossRef Full Text](#) | [Google Scholar](#)

<https://assignbuster.com/corrigendum-using-a-crop-modeling-framework-for-precision-cost-benefit-analysis-of-variable-seeding-and-nitrogen-application-rates/>

Zhang, X., Izaurralde, R. C., Manowitz, D., West, T. O., Post, W. M., Thomson, A. M., et al. (2010). An integrative modeling framework to evaluate the productivity and sustainability of biofuel crop production systems. *Global Change Biol.* 2, 258-277. doi: 10. 1111/j. 1757-1707. 2010. 01046. x

[CrossRef Full Text](#) | [Google Scholar](#)