

How Much Peanut Nitrogen Is Available to a Subsequent Wheat Crop?

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Although Extension recommendations generally advise a 22-45 kg N/ha reduction in mineral fertilizer application after peanut, recent research has reported that these may be overestimated. Field experiments were conducted over five site-years in Florida to quantify N availability from peanut to a subsequent wheat crop. The experiment was a randomized complete block split-plot design with four replications, with main plots as summer crop (cotton, peanut and fallow) and subplots as four levels of mineral N applied to a subsequent wheat crop. Results indicated that wheat yields after peanut were similar to those after a summer fallow and lower after cotton. The results indicate a yield reduction after cotton rather than a yield increase after peanut – a result that would not be observed without a summer fallow treatment, and would appear as a N credit after peanut without such a treatment. It is possible that the yield reduction after cotton may be due to N immobilization by cotton residues. Further research is needed to determine peanut N environmental fate.