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## **Tracking N Use Efficiency with <sup>15</sup>N Labeling of Corn.**

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Nitrogen management is an important issue for economic and environmental sustainability. We designed an experiment in two phases 1) the growth phase to determine the impact of herbivore pressure on N uptake, and 2) the decomposition phase to determine recovery in a second crop from separately decomposing above and below ground residue. Canopy enclosures and insecticides were used to exclude herbivorous insects. We used <sup>15</sup>N labeled ammonium sulfate as the initial fertilizer source of N for the first corn crop. <sup>15</sup>N uptake and %N of plant tissue were greater under canopy enclosures than under open conditions; however, yields were still substantially higher under open conditions. During the decomposition phase greater %N in the decomposing tissue had an impact on final yield and net N mineralized during the growing season.

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