

# How Can We Reduce Leaching and Denitrification Losses? (A09-randall154307-Oral)

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## Abstract:

Leaching and denitrification are two major N loss pathways that cause reduced N use efficiency and profitability. Both processes are driven by excess water. The relative proportion of leaching to denitrification depends on the internal drainage characteristics of the soil; leaching dominates on well-drained soils whereas denitrification can be substantial on very poorly drained soils. Leaching and denitrification occur most frequently in the spring when precipitation exceeds evapotranspiration. Perennial forage crops can reduce leaching losses by more than 50X compared to corn and soybean row crops. Best management practices for N including proper rate and time of application can reduce losses substantially. Tillage and cover crops can also reduce N leaching losses, but their effect is climate/latitude dependent. In summary, even though these loss pathways are controlled by precipitation, use of BMPs will minimize N losses.

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