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[\[PDF \(856K\)\]](#) [\[References\]](#)**Absorption of Nitrogen Decomposed from Rat Tail Fescue Residue in Satsuma Mandarin Orchard with Sod Management**[Kei ISHIKAWA](#)¹⁾ and [Hideya KIMURA](#)²⁾

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Abstract

The nitrogen dynamics in a sod culture of the satsuma mandarin orchard were determined by using ¹⁵N-labeled rat tail fescue (*Vulpia myuros*). ¹⁵N-labeled rat tail fescue plants were applied to the soil surface in an orchard and pot experiments. The satsuma mandarin trees began to absorb the nitrogen decomposed from the dead rat tail fescue 80 days after application. The absorbed nitrogen was translocated to current various organs of the satsuma mandarin trees and even to newly developed organs to the following spring. Similarly, newly reseeded rat tail fescue also absorbed the nitrogen. The satsuma mandarin trees and the reseeded rat tail fescue absorbed nearly the same amount of derived nitrogen from the dead rat tail fescue. The ¹⁵N content was high in newly developed organs, one-year-old leaves and fine roots of the satsuma mandarin trees but low in fruit. The rate of nitrogen occupied by supplied nitrogen was much greater in the reseeded rat tail fescue than the satsuma mandarin trees. Besides, the under-ground parts of reseeded rat tail fescue showed the greater level than the above-ground parts. The utilization efficiency of nitrogen decomposed from the dead rat tail fescue was 5.5% and 5.4% in satsuma mandarin trees and reseeded rat tail fescue, respectively. It was estimated that about 11% nitrogen was utilized from application in May to following next spring.

Key words[Nitrogen absorption](#), [¹⁵N-labeled rat tail fescue](#), [Satsuma mandarin](#)

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