

## Productivity and N-leaching in organic dairy grass-arable crop rotations

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Increasing size of organic dairy farms makes grazing of all cropped land inexpedient due to long distance to the milking facilities. We investigated nutrient dynamics and feed production in two dairy crop rotations with differences in proportion of grazing and cutting. One six year crop rotation represents close to the farm buildings (barley undersown with grass-clover - 4 years of grass-clover - spring barley/catch crop) and another represents further away (barley undersown with grass-clover, 2 years of grass-clover -barley/catch crop - maize/catch crop - lupin/catch crop). In each of the crop rotations was made five treatments concerning grazing/cutting strategy and manure application. Results shows that herbage production was high in year 1-4 of grass-clover. Nitrate leaching in the crop rotations were highest in grazed and manured 2-4 years old grasslands, but also following maize and lupin considerable losses occurred despite the presence of catch crops. Following grassland cultivation, a barley silage crop undersown with Italian ryegrass reduced leaching to a minimum.