

Adding Puna Chicory to Permanent Hay/Pasture
in Upstate New York

A Preliminary Report

Chicory has been recognized for centuries in Europe as a high quality perennial forage. Puna chicory, a variety developed in New Zealand, equals alfalfa in protein and surpasses it in minerals, vitamins, hormones, trace elements, and above all in palatability. Because of its deep tap root it grows well when other forages succumb to summer drought.

Recent trials of Puna chicory in the USA have generally been drilled seedings intended for a temporary forage rotation. Our trial at Northland Sheep Dairy in central New York has a very different goal: we believe chicory has the potential to make a major contribution to more sustainable livestock systems, which rely mainly on permanent forage stands in order to avoid the high economic and ecological costs of tillage agriculture. Therefore in our trial we overseeded the chicory into a permanent hay/pasture sward to test its germination rate and persistence in our northern climate under various conditions of intensive pasture management and pasture species competition.

In early May, 1993 we overseeded at two different rates into relatively poor Lordstown-Volusia hill soils that had been under renovation via intensive rotational grazing management for several years. Some seedings were herd-aided. As the following table shows, germination results were entirely satisfactory only where 4 lb./acre were sown and then trampled in by grazing within the month.

Seed Rate	4 lb./A	4 lb./A	2 lb./A	2 lb./A
Management	Grazed	None	Grazed	None
Results	Good	Fair to Good	Fair to Poor	

An average of one chicory plant per 4 sq. ft. was considered a satisfactory addition to the existing sward, in which redtop, orchard grass; and perennial ryegrass are the prominent grasses, and birdsfoot trefoil and red and white clovers the main legumes (attaining 50% of total forage).

Chicory plants measured 8" tall by late June (figs. 1&2). Germination on occasional bare spots was heavy, (fig.3); suggesting the conditions for germination were generally good, and that the main impediment to heavy germination elsewhere was the sod inhibiting seed contact with the soil. The chicory mixed well with trefoil/grass (fig.4) and clover/grass (fig.5) stands. The trefoil had been successfully introduced by frost seeding in previous years and had become a permanent staple highly palatable to the sheep flock.

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The chicory grew slowly the first year in the relatively infertile field soils compared to control plants in excellent garden soil which grew twice as large. It remained vegetative and succulent during the first year with no sign of flowers or stems even in the ungrazed garden control plants. Our dairy sheep flock rated Puna chicory at the top of their list of preferred forages, on a par with trefoil, plantain, and dandelion, which latter it resembles.

The initial seeding will be monitored in succeeding years to see what pasture management and forage species environment will foster longevity, and to determine if Puna chicory can be a true perennial in upstate New York.

- Karl North
Northland Sheep Dairy
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