

Amended

FINAL REPORT

2nd Final Report

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LONG TERM NO-TILL COVER CROP SEEDING IN VINEYARDS

by JUNE PENDLETON

The goals of this project are to reduce chemical use, soil erosion, compaction, and cost, while improving organic matter, water-holding capacity, and fruit yield. Additionally, it will enhance habitat for birds and small game, and for sod and soil-borne organisms.

Pendleton Farms is a full-time operation whose major enterprise is growing juice and wine grapes to sell to commercial processors. The operation is looking at ways to diversify by adding a value-added enterprise. We are also considering methods to transfer the farm to our two sons.

The Yates County Soil and Water Conservation District, with two nearby SWCD's, shared with our farm in the purchase of an RD88 Truax no-till drill. YCSWCD has arranged storage for the machine. They give technical advice to growers and help them calibrate the drill. The Finger Lakes Grape Program leader of Cooperative Extension is interested in the project. He plans to use the project as a demonstration to growers (see enclosed letter).

The project was begun as described in the proposal. Plot 1 was seeded to 8 pounds/acre of Dutch clover. Plot 2 vineyard growth was too thick for the drill to fit through by the time the drill was delivered so could not be planted in 1994. Plot 3 was seeded with 12 pounds of grass seed, comprised of 30% Scaldis fescue, 30% creeping red fescue, and 40% dwarf perennial rye grass on August 30, 1994.

In 1995 we continued the project. Dutch clover was seeded in another field which we designated plot 1, at 8 pounds/acre, on July 19. We used clover inoculant, which was stirred into the seed just before planting. Plot 2 was planted July 28 to 12 pounds of Chewings red fescue/acre.

Before the cover crop was seeded the row middles were sprayed on May 13 with 1 quart of Roundup plus pH buffer and surfactant (as per label) in 17 gallons/acre of water with tractor mounted sprayer.

Results have been interesting. The 1994 planting of clover failed to emerge. Close study revealed that the drill was not assembled correctly, which was partly responsible for the failed seeding. We were able to improve depth control. Other seedings came well, considering the dry conditions in 1995. Our experience indicates that the Truax drill is too long wide and heavy for vineyard use. We would favor a 3-

point hitch machine , which is now available. A problem with the SWCD joint venture is their need for towing capability for easy transit.

The site to be seeded should be free of weeds and perennial grasses (quack is a problem here), and stones should be picked for better planter operation. Soils here are quite well drained and are naturally high pH. Lime may be needed in more acidic areas. Different varieties of grass and legumes may be appropriate on heavier clay soils.

The economics will become more apparent with time. The 1994 grass mixture required only one mowing in 1995. This was less maintenance than expected, but was true to the salesman's claim of its low growth habit and minimal competitiveness.

We will continue cover cropping, but will look for smaller machinery. We would like to try other legumes, too. Summer seeding has proved somewhat difficult because of drought conditions. Possibly frost seeding would be a possibility. That might require less equipment.

We tell other producers that we think the project is worthwhile. All producers in this area have highly erodible soil and a need to control costs in the present very difficult farm economy.

So far we have had several opportunities for outreach. "The Canandaigua Messenger" published an article on November 8, 1994, which detailed the project and the SARE program. We made a presentation to the Canandaigua Lake Watershed Task Force meeting on November 15, 1994. Other articles appeared in area publications.

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