Northeast Region Sustainable Agriculture Research and Education Program

Project Title: Answering Questions About Ditch Bank Stabilization.
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FINAL REPORT

1. Goals of the Project:

• The goal of this project is the stabilization of ditch banks on muck soils through the establishment of perennial grass. It will also study insect populations and soil losses in treated and non-treated fields.

2. Update on Farm information:

• No new information about my farm.

3. Cooperators and Their Roles:

Maire Ullrich, Vegetable Crops Agent
Cornell Cooperative Extension, Orange County, Middletown, NY

Maire coordinated data collection by IPM field scouts, identified insects on sticky cards, calculated statistics and published results and other information about the trial in the Crop Management News.

Larry Larson, District Conservationist
NRCS, Orange County, Middletown, NY

Larry calculated soil loss data based on my soil type, ditch depth and type of vegetation growing. Larry also was part of the outreach program suggesting, while working up conservation plans, that this was a practice being looked into.

Dr. Michael Hoffmann, Entomologist
Cornell University, Ithaca, NY

Dr. Hoffmann assisted Maire in proper experimental set-up for this trial to ensure its statistical accuracy.

Leonard DeBuck, Sod Grower
Pine Island, NY

Leonard instructed myself and Maire on some of the fine points about planting fescue as a ditchbank cover.

5. How was the Project was Completed:

• Through the thrips infestation portion of the growing season (6 weeks) the scout collected data on yellow sticky cards in the field.
• Sticky cards were set up in 6 fields (3 experimental , with fescue ditchbanks, and 3 control fields). Cards were set up in 4 areas of the field with 3 cards in the ditch, 3 in each of the next 3 bed rows.
• At the end of the season, being convinced that this is a very good soil conservation practice and seeing that it does not harm production, planted 10,000 more ft. of ditchbank with fescue seed.
• No difference between seeded and conventional ditch thrips populations was found.

6. Specific Site Information:

• The site information is not relevant in this case however, weather information is. The weather this season in Orange County was particularly wet and cool. With almost twice the rain we normally get, the thrips populations remained relatively low through the season. So, the data collected this year my not be repeatable in a hot dry year.

7. Economic Findings:

Cost analysis will be done for 1,000 linear ft of ditch, both sides.

COSTS: $44.85/year

• Fescue seed costs 1.35/lb. It takes a little over 11 lbs, to seed 1000 ft of ditch at 80lbs/A. 100 lbs will seed 9,000 linear feet. Therefore cost of seed for 1,000 ft is **$14.85.**

• Equipment cost and labor cost to seed 1,000 ft of ditch:
Tractor use, labor and fuel all combined to cost ~**$30.00.**

SAVINGS: $588.25/year

• The cost of ditch digging is $120/1000 ft. and needs to be done about every year without fescue and every second year with fescue planted on them. Ditch digging frequency is very dependent on yearly precipitation. **Savings: $120/yr.**

• Soil loss per 1000 liner ft of ditch is 270 cubic ft /year with vegetation and 900 cubic ft/year without. In other states muck can be sold. Peat muck is sold for $20/yard^3. That translates into a soil loss calculations of $200/1000 ft of ditch seeded and $667/1000 ft of unseeded ditch. **Savings: $467/yr.**

• Herbicide savings: Actual dollars to apply herbicide is very similar when comparing seeded to conventional. However, in all other terms (without doing a full EIQ) it is a savings of chemical and therefore of the environment. Risk to crop for ditchbank spraying with a non-selective herbicide is significant to both the grower and his neighbors.

Conventional (clean ditches): Requires 3 sprays with a non-selective herbicide such as Round-up ($59.11/gal). The rate is 2qt /A or .367qt/1000ft of ditch. Each spray for 1000ft of ditch costs $5.43. A season of applications sums at **$16.29.**

With fescue: Requires 2 sprays of broadleaf killer such as Basagran ($81.45/gal). The rate is 2qt /A or .367qt/1000ft of ditch. Each spray for 1000ft of ditch costs $7.52. A season of applications sums at **$15.04.**

8. New Ideas About Problem Solving.

This year 3 other onion growers have received free fescue seed through the Wallkill-Rondout Watershed Project to try on a few ditches. The growers that were most interested in this were those who had significant problems with the excessive rainfall this year (flooding in a few areas). They feel that if their ditches had been more stable they would not have to re-dig them again this year. The next step was to get more growers involved and to continue until it becomes the conventional practice.

9. Continuation:

Yes, I plan to continue this practice and have all of my ditches seeded as soon as it is possible. This is a soil, labor, and money saving practice as far as I am concerned. The soil saving aspect is the most important.

10. Other Growers:

I have not spoken to any other growers about this practice. The few that have received seed (3) have all consulted with Maire Ullrich about the do's and don'ts as far as they are known. Maire has also approached me about possibly being on a panel or speaking at growers educational meetings this winter and next. I will tell them that I have found it to be a very worthy practice.

11. Outreach:

Maire Ullrich put articles in the *Crop Management News* (enclosed) about fescue as a ditch cover and will have a section of the 1997 Onion School devoted to its discussion. At Onion School the economics of this practice will be discussed. These numbers were not available for the 1996 *Crop Management News*. As mentioned above, Larry Larson will discuss this as an option when reviewing conservation plans. However, I feel the best outreach is when the other growers get seed and try it for themselves and this is being done through the Wallkill-Roundout Watershed Project, now that fescue is seen as harmless.

12. Enclosed you will find 3 slides.

No. 1	Scout checking sticky cards
No. 2	Fescue on ditchbank
No. 3	Me seeding more ditches