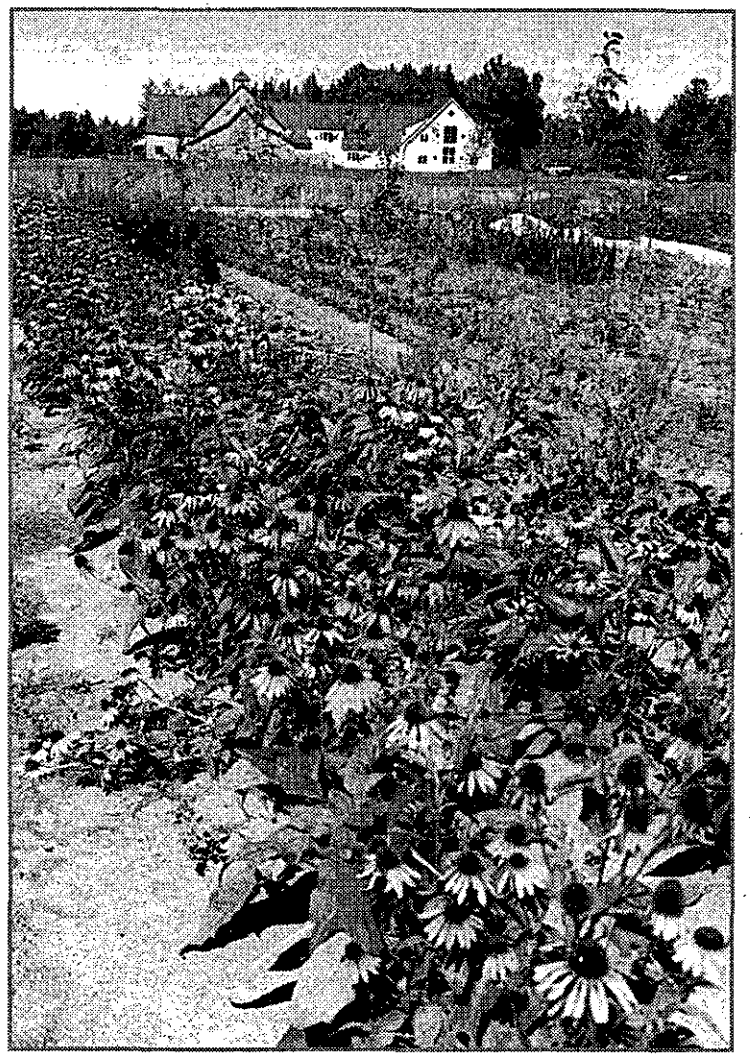
Alley Cropping *in MOFGA's* Demonstration Orchard



Echinacea was one of several intercropped species.

BY JACK KERTESZ

Imagine working with a blank slate of ground and feeling that the outcome might look like some small, twiggy trees surrounded by an undetermined amount of green vegetation of questionable quality. Now imagine this plot of land on MOFGA's home base, a veritable garden in a fishbowl. Such was my trepidation when I learned in January 2000 that I had received a USDA SARE (Sustainable Agriculture Research and Education) grant to explore the potential of interplanting a yet to be established orchard on the site. A year later, I can breathe a big sigh of relief as I work up seed orders and plan for planting this year. What follows is a synopsis of what synthesized and transpired on a place in Unity that many of us have come to know as Common Ground.

As a member of MOFGA'S landscape committee, rialize. As a local resident, I also wondered how involved my role might get. I should have guessed, when Ron Desrosiers, a NRCS (Natural Resource Conservation Service) staffer, attended a fall meeting, that things would be greening up soon. Ron is passionate about trees, and over the years we'd shared plenty of information, encouragement and plant material. Ron asked us to consider a SARE grant, and I slowly volunteered to help write the proposal.

We chose to work under the general category of *agroforestry, a melding of trees with conventional* crops, and within the specific boundaries of alley cropping, the planting of mixed crops between rows of trees. I had been intrigued with the practice of alley cropping for some time. The best examples that I'd seen were of small scale operations fine tuning their landscapes to create a diverse and profitable enterprise. Here was a chance to put it to the test.

machine during the Common Ground Country Fair the previous year. Despite about a third of it showing a green beard of quackgrass (also known as "witch" or "couch" grass), I decided to plunge ahead.

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place in Unity that many of us have come to know as Common Ground.

As a member of MOFGA'S landscape committee, I'd spent a chunk of time wondering how the ideas we eagerly exchanged at meetings would ever mate-

that I'd seen were of small scale operations fine tuning their landscapes to create a diverse and profitable enterprise. Here was a chance to put it to the test.

Our proposal, "Improving Financial Returns Early in an Orchard's Life Through Alley Cropping," was awarded an $11,100 farmer/grower grant. The following expenses were included in the two-year project:

- Salary for myself: $2,000
- Wages for seasonal workers: $6,000
- Trees: $600
- Seed: $900
- Soil amendments: $200
- Leasing tillage and harvesting equipment: $500
- Irrigation supplies and a backpack sprayer: $500
- Row covers and orchard supplies: $400.

Another $9,000 is expected from matching contributions of labor and materials.

The Site

The previous owner of the site had extracted numerous crops of irrigated potatoes and corn from the land. Beginning in 1997, Mark Fulford applied various soil amendments, including rock phosphate, azomite, lime and generous amounts of compost. Several light crops of green manure were also incorporated. Nonetheless, the 1.5-acre plot dedicated to the south orchard still looked "impoverished" last spring. One area did look workable, a half-acre section that had been loosened with a spading

Merlot lettuce, on the right, was "aesthetically stunning" during the growing season and yielded a crop of seeds as well.

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Larry Ward, a local dairy farmer, spread Herbkomp compost with his equipment, and Bob Kline loosened the soil with his spader. This was soil unlike any that I had ever worked: a stone-free, silty/sandy loam. With little evidence of organic matter, it behaved erratically ... puddling in a rain or when a hose was left on and then acting like a quicksand wannabe, sucking in unsuspecting feet. The surviving weeds were stunted, the soil structureless — This could be challenging. I decided on a strategy that would minimize equipment use and optimize hand labor.

The Alleys

Seven alleys were determined by the spacing of trees in the orchard. Included here are apple, pear and plum on various size controlling rootstock, planted on a 20- by 20-foot grid. Two outer half-alleys are adjacent to the roadways. Apple trees on a 24- by 24-foot spacing are situated there. Five 20- by 100-foot and four 24- by 100-foot alleys with a north-south orientation were thus created.

Alley Crops

An assortment of crops was chosen to test the limitations of this site, of the grower and of the layout. Traditional crops of winter squash and dry beans fared well. Ornamental corn grew robustly but failed to mature with any reliability. A seed crop of Moon and Stars watermelon took its sweet time ripening, most of it happening after the Fair. Yields were adequate to sell to FEDCO Seeds but were paltry by commercial standards. Merlot lettuce was aesthetically stunning during the growing season. With only a single harvest for seed, its yields weren't appreciable. Intrigued by its ornamental qualities, I will consider growing this again. A muskmelon crop barely materialized, although the few that made it to the transplanting stage and avoided cutworm damage offered some luscious fruit, putting this crop high on the 2001 priority list. A soybean crop will also be repeated based on its performance last year. Green beans, flowers, and a range of culinary and medicinal plants flourished. A bed of ornamental grains and grasses showed promise for future production. Getting them dried and cleaned proved a more formidable task.