

Susan Minnich
Project FNE 95-102
Development of a Woodlands Growing Method
for New England Native Wildflower and Medicinal Plants

Sustainable Agriculture Research and Education Program
Producer Grant Final Report
October 1998

1. Restate the goals of your project.

To create growing beds in a thinned woodland area, planted with medicinal herbs and woodlands wildflowers native to New England. This method should minimize the need for irrigation and shade while also minimizing pest damage. To propagate plants from seed, cuttings, and divisions. Many of the plants I grow are stressed in the wild from overharvesting, and my goal is to provide a sustainable source for these plants.

2. Update the information on your farm since you received a producer grant. Include acres farmed, crops/livestock.

Since the grant was issued we have put up a 48 x 10 foot heated and insulated greenhouse. We use it for starting herbs and cut flowers for market as well as for our own vegetable starts. We also grow summer heat loving vegetables (tomatos, peppers, eggplants) in it. We built a 32x8 foot coldframe, which holds cool weather flower starts until they can be planted out (relieving pressure on the greenhouse) and later grows heat loving cut flowers (dahlias, zinnias can go in the ground earlier; the top is later removed) throughout the summer season. We cleared another section of forest and planted cut flowers for market there. We are in the midst of and building a syrup house for maple syrup production. This building (12 x 16 post and beam) will be a multiple use building offering some storage facilities and a black fly protected potting area. We began this growing season working three farmers' markets but in July cut back to two as one market was not profitable. We also supply cut flower bouquets every week to two retail stores. I am beginning to provide flowers for special events such as weddings, and am considering a subscription flower program with weekly deliveries. After many years of growing meat chickens we decided to take the summer off, as there are too many demands on our time with the expansion of commercial flower production. We farm (excluding the natives) less than 3 acres of intensively managed beds. We continue to build hillside terraces using concrete blocks (1-wide) to both make the path and the bed. We have introduced selling maple syrup, many kinds of herb vinegar and herb wreaths at markets; they have been quite successful.

3. Who were your cooperators and what were their roles in the project?

Dave Bacon of Canterbury Farm helped with his equipment for the clearing and removing substantial tree roots and rocks, and path building. Roy Bryan has volunteered a tremendous amount of time clearing, digging and planting. J & R Trees has done much of the tree cutting work. Lauren Henning spent several days clearing brush and digging beds. Naomi Alson volunteered her expertise for plant sources and provided some plant materials.

Heather McLargo, then at N.E. Wildflower Soc. Garden in the Woods helped with site planning.

4. Tell us what you actually did in your project and how it was done.

I thinned between 2 - 2-1/2 acres of forestland so that the trees left standing were a mix of small saplings and mature older trees. Maple, birch and beech are the predominant trees, with some hemlock and pine. Most trees were left with about 20' between them, although this varies for areas to be either shadier or sunnier, depending on plant requirements. The hill where goldenseal, ginseng and blue cohosh are planted is only slightly thinned, so as to offer a shadier spot. There is a small stream nearby which provides necessary water for small transplants. We built a bridge and a path wide enough to safely accommodate a small ATV to provide access for this area.

I dug beds of varying size in which to establish "mother" herb plants. These beds range from 4' x 15' to the smallest at about 3' x 5'. The beds accommodate themselves to any major rocks in the area. They were dug approximately 6" deep, and then forked another 8 or so inches. Major roots were removed, then the top soil was strained to remove remaining fern runners and other highly invasive "weeds." Bone meal, greensand and rock phosphate was added. I did not add manure or other organic matter in order to lessen the risk of introducing weed seed. I took plants' soil preferences into consideration when planting beds: plants liking sandy, damp soil, such as bloodroot, may apple and jack in the pulpit were planted near the stream; plants liking drier soils, such as goldenseal and blue cohosh went further upslope; sunlight preferences were also considered, although as the forest grows that seems moot, as it changes so quickly.

Each growing bed holds only one kind of plant. The following varieties were planted: goldenseal, ginseng, blue cohosh, bloodroot, gold thread, jack in the pulpit, foamflower, partridge berry, wild ginger, maidenhair fern, red trillium, may apple, bluebead lily and hepatica. The first summer was quite dry, and the young plants were watered as necessary. In subsequent summers, no additional watering was done. In the fall of the first and second years, I collected seed (from local wild populations) and planted blue cohosh and jack in the pulpit. I left the goldenseal and bloodroot to self-sow.

In 1997 I added another 36 goldenseal plants, restarted about 42 ginseng plants, added a may apple bed, and blue bead lily, tiarella cordifolia and twin flower beds. The last three are not so much for medicinal uses as for wildflowers.

In the second summer minimal amounts of weeding were required, particularly in the maidenhair fern, wild ginger and blue cohosh beds. Weeds were not a problem this summer.

5. What were your findings and accomplishments? Did you have unexpected results? If so what were they.

The first ginseng planting was all lost. I am not sure why; perhaps because I planted it bare root, not wanting to add the soil it was in to the bed, perhaps it got too much sun in the afternoon, although it was in a shadier spot than my first ginseng originally was. The second planting has so far survived, in a cooler, shadier spot. I followed a suggestion from a native plant conference and left the ginseng alone to grow for a year in its original growing pots. As an aside, my original ginseng planting, (predating the SARE grant) has disappeared. I believe due to the increased sunlight it received, as we removed some trees nearby. In the southern Appalachians and in central Massachusetts, theft is a major problem in ginseng woodland production.

The jack in the pulpit came from seed and the new plants are growing well. The first jack in the pulpits planted never have thrived, although they are located within 150 feet of large healthy wild plants. I think the soil may be too sandy where I put them.

Blue cohosh, goldenseal, gold thread and bloodroot are the most successful medicinals planted. They seem to be thriving and establishing themselves well and have spread beyond my initial plantings. Gold thread is considered by some people to be a good substitute for goldenseal and is not as far as I know endangered. I planted a few goldenseal plants (about 12) outside of the bed, tucking them nearby directly in undisturbed woodland soil. They have not done as well as the plants in the prepared beds did.

I expected the wild ginger bed to take off this past summer, but it did not. From previous experience with this plant, I think that it requires longer to really establish itself well, unless it is planted in large clumps in the first place

Natives for groundcover - the tiarella, foam flower, gold thread and hepatica did very well. They are reasonably easy transplants and establish themselves nicely. Partridgeberry and wild ginger are more difficult to transplant and establish. Except for the partridgeberry, I think that all of these, including the slower growing wild ginger make good groundcovers for gardeners interested in using native plants.

I particularly like seeing the plants that are both medicinal and ornamental do well as transplants. Building native populations is a goal of this project and to be able to supply local gardeners with local native plants is satisfying. I did not know this project would slip so strongly in this direction.

6. Is there any specific site information relevant to your project or the results?

In retrospect, I think that a site with fewer large rocks would be much preferable. I don't think this is a very practical method unless a small tractor would be able to do the initial soil preparation.

Pulling roots and medium (i.e. about 2 foot by 2 foot max) rocks is too labor intensive for us, when the plants grown require such a long period until they might be economically profitable. However, this site is fine for the plants themselves and so, partly for this reason, I have stressed providing some plants to local gardeners and back-burnered the idea of selling the roots for medicinal use. Several of the more threatened plants offer conflicting impacts on where to grow them: if you plant them in too accessible a location they become vulnerable to theft; if you plant them well off the road, as we did, it becomes difficult to work on a meaningful commercial scale.

7. What were your economic findings (if relevant to your project).

I have sold some plants to local gardeners, including goldenseal, blue cohosh, bloodroot, wild ginger, foam flower and hepatica; in all cases, I have heard reports from these gardeners that their plants are doing well for them. Most of these gardeners are growing the plants for their ornamental use, although the blue cohosh may be harvested next year, I'm told.

I have not sold any of the ginseng, although several people have requested it from my plant list.

I have come to see this project for my farm as a method of preserving native plants and selling some to local gardeners who also want to use natives usually as shade loving ornamentals. They offer an opportunity to do a little education about the value of preserving indigenous plants when talking to people at the farmers' markets and in the herb store where I still work part time. We sell a large quantity of culinary and medicinal herbs at market, and it is a good niche for us to be able to offer these more unusual plants; I hope to continue growing them and selling them locally. I do not think that I will expand the project to a scale at which selling the roots commercially would be viable, although there is certainly a market, especially for the goldenseal. This is probably for several reasons: I think that the amount of physical work to build beds in the woods without a small 4-wheel drive, tractor is prohibitive. Although I think that screening the soil was probably overly obsessive and time consuming, and may have actually harmed the jack in the pulpit bed by removing organic matter, there is still no weed problem. The number of years to grow roots big enough and in enough volume to sell is daunting; crops ~~in~~ that can be sold more quickly have taken precedence. Over the long run, I think that all of these natives will provide the farm with an interesting "niche" product but probably not one that will offer a substantial part of our income. I continue to think that it is useful and important to help to preserve these plants and to encourage their use by home gardeners.

I also think it necessary for the medicinal wholesale market that goldenseal and ginseng be grown commercially as its wild plant populations continue to be overharvested. Also, it seems to me to be bad practice to grow medicinals using chemical poisons on them. So less intense plantings in as close as possible to natural surroundings should be a good alternative. We have seen no signs of disease. I think that in the long run (in some species cases, up to 7 - 12 years) there is the potential that this project develops into selling some roots to local tincture makers. Right now, I am not interested in harvesting (and so killing) some plants for their roots in order to make a few dollars more easily obtained by growing cut flowers; however, I do think that it would be excellent for the wholesale market for someone to be able to do this on a larger scale.

8. Have the results from your project generated new ideas about what is needed to solve the problem you were working on? What would be the next step?

Yes, I think that some mechanization would be more than useful. We can't run a tractor around in the rocky, hilly, heavily wooded site we have available, which I now think is probably necessary for any real scale commercial production.

Some grass came into the beds, although there is very little in the woods around them. It has been weeded out and has not returned, partly I think because I put a thicker layer of leaf mulch on the soil around the new plants. It would be a good idea to place a heavier layer of indigenous mulch initially when planting.

A wild plants researcher at the University of North Carolina said in a conference in about 1998 that goldenseal and ginseng used to be grown in large intensely planted areas and were prone to diseases which she expects will return (she indicated that researchers do not know what these diseases were, exactly, just that they were quite destructive). This reinforces my idea of planting small, scattered beds; I continue to think that the beds I made are too small. She also said that goldenseal can't be grown after

goldenseal (if you are harvesting for the roots); I am hoping that if I grow in scattered beds and do not plant too intensively this will not become a problem.

One of our next steps may be to use our newly constructed Web site (so far not a profitable project) to talk about and perhaps to sell native plants. We are considering the possibility of selling some of these plants by mail order.

9. Will you continue to use the practice you investigated? Why or why not?

Yes, although it does seem to be a slow going project; I will continue selling some plants and to build more of these beds for the future. The demands of cut flowers and herbs, which I sell at the local farmers market and which provide much of my income, continually take first priority; hopefully we will not have so many capital-intensive projects every year and I will be able to put more time, again, into the native species. I continue to be more interested in the conservation aspect of the project and so selling plants as a method of saving and spreading native populations is more interesting than the apparently difficult proposition of selling quantities of the roots for medicinal purposes.

10. What do you tell other producers about your project and the results?

I'd like to answer this in terms of gardeners; other producers don't seem much interested in native plants; most of the people I know grow vegetables and/or flowers. But I meet a lot of gardeners at markets I have encouraged a few people to grow blue cohosh and goldenseal as medicinals because they have good sites. A still small, but larger number of gardeners are interested in these native varieties as ornamentals and I tell them about growing conditions including shade and soil pH which will help their plants. I do not take these plants to every market, but fill special orders.

11. Explain what you did in your outreach program? Please send a copy of any articles written about your project.

There is a small group of people here interested in native plants who have been in contact with United Plant Savers. They are talking about becoming involved with my project. I have had several young people from the Berkshires who I have met at market come to learn the plants and to help work in the growing beds. Last year I offered a workshop through Naomi's Herbs, a store in Lenox. She is not doing any workshops this summer. I have led several wild plant walks through the area planted, showing visitors how to recognize these plants. Coles Brook Farm will try to do a project in the spring with Naomi's, planting some of these plants in a wildlife sanctuary along the Housatonic River in Lenox. Most of my outreach is informal, talking to people I meet at the two weekly markets and in the herb store. I include these plants on my plant list and in my Web page and hope to begin to more actively use that page. *I taught a workshop in the summer of 1995 at Naomi's Herbs*

12. Please include 2-3 slides or photographs of your project.

I have taken photographs and will have the film processed and get photos to you.