→ BONT GUTTMAN
LAB I

The Evergreen State College

September 10, 1984

TO: Environmental Studies Faculty
MES Faculty
Science, Technology and Health Faculty
and interested others

FROM: Pat Labine, Jean MacGregor and Mike Beug

SUBJECT: Ecological Agriculture and the Future

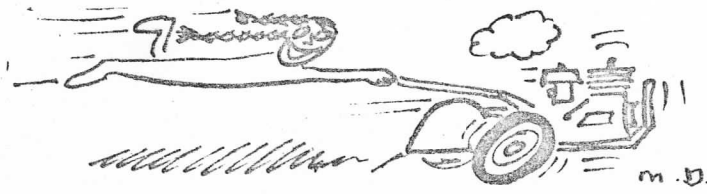
Dear Colleagues:

For the past year the three of us have been thinking about the future directions of the Organic Farm and the Ecological Agriculture Program. The result is the attached draft Five-Year Plan and Proposal for Development.

A week ago we presented the draft to the Deans and the Provost for their consideration and response. They agreed with us that the next step was to see what the rest of the faculty thought about the things we are proposing.

We hope you can find time to read the draft and respond to it. Better still, we hope you can join us for sherry at the Farmhouse, Thursday, September 20th at 3:30 to talk about the future of Ecological Agriculture here at TESC, as well as our other common interests.

****
* SHERRY AT THE FARMHOUSE *
* *
* Thursday, September 20th *
* *
* at 3:30 *
****



ECOLOGICAL AGRICULTURE

AT

EVERGREEN

(D R A F T)

A FIVE-YEAR PLAN AND PROPOSAL FOR DEVELOPMENT

Pat Labine
Jean MacGregor
Mike Beug

September, 1984

ECOLOGICAL AGRICULTURE AT TESC
A FIVE-YEAR PLAN AND
A PROPOSAL FOR DEVELOPMENT

I. The Emerging Importance of Ecological Agriculture[1]

Mainstream American agriculture is experiencing serious difficulty. High-input chemical farming is creating a complex of environmental problems -- high rates of soil erosion, ground water contamination, land subsidence and salinization, pesticide residues in food chains, the creation of resistant insect and weed pests, and the need for large subsidies of non-renewable energy. Coupled with these problems are serious economic difficulties. Farm foreclosures are now occuring at a rate which exceeds that of the Great Depression. More and more, it is becoming clear that agriculture as it is being practiced is not sustainable.

Ten years ago organic argiculture was considered a quirky, fringe phenomenon, an impractical, ideological activity of hippies and others resisting "progress." Today it is being examined as a serious alternative to the present agricultural predicament. For example:

-- There is substantial support for organic agriculture in the congress. In January, the House of Representatives, in a 206-184 vote passed the Agricultural Productivity Act (formerly, the Organic Farming Act) and sent it to the Senate. The bill, authored by Rep. Jim Weaver of Oregon, would direct the USDA to carry out alternative agriculture research and extension effort. (The bill has met opposition in the Senate and is opposed by the chemical industry and the USDA.)

-- The National Research Council of the National Academy of Sciences has proposed a study of alternative farming methods since they appear to promote "sounder resource patterns" and might provide "a cost effective supply control strategy in the context of our commodity programs."

-- A consortium of 11 major national environmental groups in a report, America's Economic Future (published by Natural Resources Defense Council), has called for research on "alternative, production systems such as organic farming."

-- This spring, The Food Marketing Institute based in Washington, D.C., in a survey of consumer trends, found that there is significant public concern about food contamination. More than 3 out of 4 Americans consider pesticide residues in their food a serious hazard.

-- The natural food industry is expected to show strong growth. The USDA Economic Research Service projects present annual sales of $2.4 billion to grow to $5-$10 billion by the end of the 80's.

-- Even the agricultural "establishment" is giving serious consideration to ecological agriculture:

---

[1] Definition: "Ecological Agriculture" at TESC has meant small scale, organic agriculture, studied within the larger social/political/environmental contexts. "Organic" can be operationally defined by the organic certification criteria being developed by state organic growers organizations; to them, "organic" procedures are those which preclude the use of "industrially formulated" fertilizers, pesticides, and herbicides, and which include practices to build and maintain organic matter within the soil.

- This June, Michigan State, the Kellogg Foundation, the Rodale Research group and IFOAM (International Federation of Organic Agriculture Movements) jointly sponsored a two-week meeting on sustainable agriculture.

- WSU offered a heavily enrolled course this spring on organic agriculture.

- The Des Moines Register, considered the voice of Midwest agriculture, ran a week-long series on organic agriculture this past June -- presenting it as a serious alternative.

II. Ecological Agriculture in the Maritime Northwest

A recent survey by the Cooperative Extension[2] indicates that there are over 9000 farmers in western Washington. Nine percent of the sample identify themselves as organic farmers, although a larger 37% report that at least some of their crops or livestock are raised organically. The majority of the farmers in the region would consider or expand organic production if markets could be assured.

Like farmers everywhere, western Washington farmers are experiencing economic strain. In the Cooperative Extension study (cited above) local farmers indicate that their major problems are high production costs, high property taxes, fluctuating commodity prices, lack of capital, and urban encroachment. Organic farmers, and farmers considering organic methods, deal with the additional problem of inadequate information and difficulty obtaining what information does exist. With little experience or information themselves, most local extension staff don't feel competent to deal with questions about organic methods.[3] Indeed, extension offices, particularly in Thurston County, have referred such inquiries to Evergreen's Organic Farm.

Because organic agriculture is more dependent upon biological resources, it requires more uniquely regional information than conventional chemical-input farming. The organic farmer must be able to manage biological nitrogen fixation systems, biological nutrient cycling systems within the soil, and complex predator-prey relationships of pests. Here in the maritime Northwest, the untypical agricultural climate poses unique problems for organic farmers. Not much is known about managing for nitrogen in soils highly leached by winter rains. Little work has been done on crop variety selection for this area. Practically no research exists on biological management strategies for local insect pests.

---

[2] "Western Washington Agriculture in the 80's. An Overview of Survey Results." Emmet Fiske. Western Washington Research and Extension Center, Puyallup, Washington. August 1983.

[3] Lack of information is a widely recognized barrier to the adoption of organic methods. The USDA's Report and Recommendations on Organic Farming (produced during the Carter administration, and no longer being distributed by the USDA) remarks that "little research and published information are available to help organic farmers resolve the problems they encounter in the development and implementation of organic methods" (p.83).

There is then, a real need for information and demonstration of alternative small scale agricultural methods in the maritime Northwest. There is at present no institution other than Evergreen rising to meet that need.

III. Ecological Agriculture at TESC

A. History and Resources

Evergreen has been involved with organic agriculture since its first year of classes in 1971 when a group of students in the Environmental Design Program began development of the TESC Organic Farm. Coordinated Study Programs in agriculture began in 1974 with "A Matter of Survival" and have continued yearly under a variety of names -- "The Good Earth," "Back to the Land," "As You Sow," and "Small Scale Agriculture." In 1981 the name of the program permanently became "Ecological Agriculture." The same year the first regular faculty appointment associated with Ecological Agriculture was made with the hiring of Pat Labine.

In the past 13 years TESC has built the Organic Farm into an impressive facility with obvious potential for significant work in alternative agriculture. An even greater resource is the number of TESC faculty interested in agriculture. There is a core of faculty whose professional interests involve agriculture and rural life (Labine, Perkins, Beug, Eickstaedt, Sluss, Fox, Dobbs) and a larger number of faculty who have had experience teaching in the farm programs (Papworth, Bowerman, Skov, Filmer, Cellarius, Ladd, Kelly, Stuewe-Portnoff, Brown).

B. Needs

Evergreen's early and continuing commitment to ecological agriculture has drawn considerable national recognition. People involved in alternative agriculture know that Evergreen is one of the few undergraduate colleges that offer ecological agriculture as part of its curriculum. However, there are a growing number of other programs around the country (see VII). The alternative agriculture movement is growing in seriousness and sophistication. If Evergreen is to maintain its reputation and position on the leading edge of alternative agriculture, both nationally and in the maritime Northwest, it must expand and professionalize its program. Such an expansion would involve many steps. First, the curriculum needs to be strengthened and expanded. Students need more opportunities for advanced work. This means not only advanced project work and internship placements, but also more opportunities for research. Increased research, especially at the MES level, will be essential to Evergreen's credibility and visibility in the larger alternative agriculture movement. The interested faculty and students exist. Curricular offerings and research opportunities are needed to accommodate them.

Second, the Farm facilty needs to be upgraded to the degree that it functions as an appropriate public example of alternative agriculture and as an adequate laboratory and research facility.

Third, we need to capitalize on the opportunity for a summer Farm program. It has the potential of becoming a national summer "field station" in alternative agriculture, a place where the current issues are addressed in a hands-on setting. It will require considerable planning and institutional resources to develop such a summer program, but the benefits of national exposure and the excitement created by the latest issues and the people involved with them would be substantial.

C. Opportunities

Expansion of ecological agriculture will benefit Evergreen in a number of ways. It will strengthen Environmental Studies by giving it another "strong suit" (Natural History already being one of them). Expansion will provide students with a course of study, rather than with just another elective. It will also rebuild the strong research emphasis that Environmental Studies at TESC was noted for in the 1970's. The existing and extensive environmental pollution equipment at TESC is admirably suited for some of the current research questions in ecological agriculture, questions such as the behavior of soil nutrients and allelopathy. Further, increased research activity will attract, and create opportunities for graduate students in the MES program.

Expanding ecological agriculture will give TESC more local and regional public visability. The Farm can become an attractive visual manifestation of Evergreen's academic activity and service to the community. There is a large natural constituency of people to whom the Farm's activities would be of interest: gardeners, small scale and organic farmers, K through 12 public school programs, environmentalists, and senior citizens, among others.

IV. The Vision: Ecological Agriculture at TESC in 5 Years

A. The Curriculum

1. The Ecological Agriculture Program

A three-term, full-time program, staffed with two faculty. Intended for sophomore-junior level students, both those interested in alternative agriculture as an emphasis, and those interested in liberal studies. Program work distributed over 4 areas:

a. Science units. 4 credit units in soils, entomology, botany and research methods.

b. Liberal Studies units. 4 credit seminar each term on the social, political, and economic issues of agriculture, past and present. One term would emphasize agriculture and Third World development and expanded to a campus and community-wide forum with outside speakers (externally funded).

c. Technical units. The "nitty-gritty" of small scale agriculture. Workshops and 4 credit units, some of which would be appropriate for community "continuing ed" offerings;

such topics as "The business of small scale and part-time farming," "Computers and small scale farming," "Cottage industry," "Rural community development," "Grafting and plant propagation."

d. Practicum. Directed work in the TESC market garden and extensive field trips.

2. A 3-2 Double Degree Program in Agriculture with WSU

A negotiated curriculum pathway with WSU for students who want a background both in intensive, small scale, "organic" agriculture and the more conventional agricultural credentials. Appropriate for students considering careers in international development or cooperative extension.

3. The Summer Farm Program

Would provide the necessary year-long continuity required both by the farm and by students wanting to continue their academic work through the summer.

(The Farm Summer Program is one of the remaining problems and/or opportunities. It needs to be regular, predictable and integrated into the ongoing Eco Ag Program, but not a required part of it. One possible model for a summer program would be that of a summer "field station," drawing on a national summer school student body, advertised nationally, etc. A survey course with practical applications, dealing with current issues: "Ecological Agriculture '85" could then serve as an introduction for those students planning to take Eco Ag in the fall, but could also stand alone for special summer students. Students who already took Eco Ag could work on farm-related research and would be around as summer teaching assistants. One problem is staffing. Would existing Eco Ag faculty be willing to teach summers? Could we make it a group effort so that each faculty takes one week? Could we rely on invited "big name" faculty?)

4. Agroforestry

Continues as a winter term module. (Another problem and/or opportunity. Given our region, our 1500-acre forested campus, Agroforestry's inherent connection to Ecological Agriculture, and the interests of many of our students in forestry, Agroforestry remains one of our neglected potentials. However, without faculty with the necessary background, it seems that a one-term survey module staffed by adjuncts is the best that can be done in the near future.)

5. Advanced work in Ecological Agriculture

a. Individual research contracts. Ongoing faculty research projects, an emphasis upon research questions and methods within the Eco Ag Program, and the ongoing research projects at the Farm would provide many opportunities for students to participate in research, and to develop projects of their own.

b. Group contract project work. Staffing within the Center for Community Development would develop and direct advanced project work within the community relating to ecological agriculture. The 1983-84 project with the Majestic Aires Ranch/Eastside Community Church is a good example of the kind of work possible.

c. Internships. An emphasis within the Eco Ag Program on agriculture and Third World development would include the development of Third World internship placements with a number of overseas service organizations such as AFSC, Oxfam, Plenty, The Mennonites. The Center for Community Development together with Coop Ed would work to develop local and regional internships through its contacts in the agricultural community.

B. The Farm

1. A laboratory and research facility. Would serve as part of the practicum for the Eco Ag Program; would provide field and lab facilities for undergraduate and MES students working on research projects. Farm would have adequate staff and resources to provide the necessary back-up for serious research; e.g. record keeping for plots, weather monitoring, properly maintained equipment, etc.

2. A productive market garden, supplying flowers for TESC offices and much of the community's vegetable demand. Sales to SAGA, the MODS, a farm stand by the CAB. Planned and supervised by the Farm Manager, worked by work-study students and Eco Ag Program. An important part of the Eco Ag Program practicum. Would bring a seriousness, a discipline to the Farm's activities; would teach much about the importance of planning, of hard work; would allow opportunities for market research, variety testing, time/effort analyses. The market garden would provide substantial income.

3. A visitor center. The activities of the Farm would be of interest to home gardeners and small scale farmers. The Farm would be the public, visual manifestation of Ecological Agriculture at TESC and therefore its grounds and buildings are laid out and maintained with attention to pleasing visual impact and public accessibility. All activities, research projects, and structures would carry informative signs.

4. A recreational facility for the TESC Community. The Farm's activities are inherently attractive. The Farm is designed to be a pleasing place to take a walk, to have lunch. The Farm would maintain community gardens for the use by the TESC community. The management of the market garden would provide opportunity for drop-in volunteers, such as students wanting to work in the gardens on a spring afternoon. The Farm House would be an attractive social focus for the TESC Community.

5. Staffing. The Farm would be run by a professional Farm Manager. He/she reports to the Director of Laboratory Facilities and supervises the farm work staff and volunteers, which include a number of work study students and students in the Eco Ag Program. The Farm Manager would work with the Faculty of the Eco Ag Program in planning and teaching the practicum portion of the program.

C. Community Outreach

1. A visitor center open to the public. See B-3 above. With interpretive signs and pamphlets (student developed and created) the farm would become a living exhibit of ecological agriculture the year round.

2. A community-based, Farm/Community Advisory Board, to build links to community groups and local farmers. Such a group would provide critical feedback, new ideas, and would generally act as a sounding board on farm programs and research directions.

3. Outreach staff person(s) who would work closely with Evergreen faculty and the farm manager to generate public information and public use of the farm, and ecological agriculture offerings. Elements of such an outreach program would include:

   a. Liaison work with the agricultural community in the region (grange, Cooperative Extension, farmers' organizations, farmers' markets, and so forth).

   b. Work with Coop Ed office to develop internship opportunities

   c. Offer and administer "continuing Education" offerings such as workshops, and short courses.

   d. Develop contacts, proposals, or contracts for environmental education curricula or programs with local schools (K-12) and/or youth groups.

   e. Publish a regional Eco Ag Newsletter and Research Notes, with TESC students.

Phase I
Academic Year 84-85

1. Develop a prototype for a Summer Farm program
2. Complete 3/2 program negotiations with WSU
3. Prepare brochure for Eco Ag at TESC
4. Expand national notices of program
5. Continue Winter Agroforestry module
6. Seek funding for subsequent phases

Expected Enrollment:

35 FTE Eco Ag
Winter, Spring

30 Agroforestry
Winter, 4 credits

20 FTE Farm Program
Summer '85

Phase II
Academic Year 85-86

1. Hold and evaluate prototype for Summer Farm Program
2. Expand Eco Ag Program to 3 quarters
3. Fund a campus-wide and public (credit-generating) "Third World Agriculture and Development" speakers forum
4. Fund library acquisitions in Eco Ag and international development. Books, journals, films
5. Develop "Continuing Ed" Course units
   a. "The Business of Small Farming"
   b. "Computers & Small Farming"
   c. "Rural Community Development"
   *d. "Research Methods for Ecological Agriculture"
   *e. a number of "applied" botany units

   (* more for use within Eco Ag Program)

(continued)

6. Expand internship placements in Eco Ag including placements in Third World via AFSC and others
7. Fund a faculty development program (for Environmental Studies faculty, others; Summer '86) on local and global issues of food and agriculture
8. Develop scholarship funding for MES students in Ag-related projects

Phase III
Years 86 - 88

1. Continue to develop summer farm offerin
2. Create MES elective in food and agricul ture issues/policy
3. Explore possibility of program for stud from developing countries

Expected Enrollment

40 FTE Eco. Ag. Fal Winter, Spring

30 Agroforestry Win 4 credits

20 FTE Summer '86 Farm Program

? FTE's "Continuing Ed" units

? FTE's Eco Ag internships

? MES students working on Eco Ag-related projects

30-40 students Third World and Ag lecture series (4 credits, 1 term)

FARM DEVELOPMENT

Summer - Fall '84	Phase I Academic Year 84-85	Phase II Academic Year 85-86	Longer Range Goals (5 Years in Future)
1. Complete farm reorganization of staffing and budgets	1. Staff Farm Manager position. Funding for position made permanent	1. Carry out major equipment acquisition: tractor, rotovator, front end loader, brush hog, sickle bar mower	1. Acquire Farm Manager house (Ben Kiefer property)
2. Draft long range plan for new buildings and grounds layout	2. Develop landscape and architectural plans for new buildings and farm	2. Complete new garden layout and irrigation system	2. Expand productive area of Farm, north of community gardens, along Lewis road (4-8 acres)
3. Integrate 1 & 2 above plus complete Eco. Ag. development plan into new biennial plan for farm	3. Double capacity (approx. $2000) of "Dutch lites"	3. Construct new building: garage/shop/office/lab space/rest rooms/showers	3. Explore expansion to 100 acre Giovanni-Kerr property
4. Submit above plans to TESC community for review (Admin., Envir. Studies faculty, other interested faculty, staff, students)	4. Pilot Summer Farm Program run and evaluated (Summer '85)	4. Install lighting, paving driveways, and signs signs	
5. Begin planning to develop Summer Farm Program (see curriculum development)		5. Explore direct legislative funding for Farm	
6. Begin seeking substantial funding (mostly external) for subsequent phases	Projected Market Garden Income: $3000/Year	Projected Market Garden Income: $6000/Year	Projected Market Garden Income: $10,000-15,000 Year

PUBLIC SERVICE, COMMUNITY OUTREACH

Phase I
Academic Year 84-85

1. Explore funding for subsequent phases

2. Expand local "exposure" - develop booth/display on Eco. Ag. at TESC for local fairs, malls, Cooperative Extension small farmer days, Super Saturday

Phase II
Academic Year 85-86

1. Form a local farmer and community-based farm advisory board

2. Create a full time position within Center For Community Development for Eco. Ag. outreach

   Responsibilities:

   a. Community liaison: work with grange, Cooperative Extension, Ag. Boards, farmers' organizations, farmers' markets, etc.

   b. Develop internships; work with ongoing programs developing community-based projects

   c. Administer "continuing ed" Eco Ag Program

   d. Explore funding for a public education position for the Eco Ag Program

   e. Edit a "Farm and Eco Ag at TESC" newsletter

Phase III
Academic Year 86-88

1. Create a public education position for Eco Ag

   Responsibilities:

   a. Work with Thurston-Mason-Lewis county to develop a TESC farm-based public school Environmental Education Program

   b. Work with TESC student group contract on agricultural and Environmental Education projects

   c. Build contacts with Teacher Certification Program (if it is established)

   d. Organize and work with a "Friends of the Farm" community support group

   e. Work with community garden groups

VI. Funding Sources for Ecological Agriculture Program Development

A. With Existing Resources

We hope to move ahead in these areas:

1. 3/2 Program with WSU (John Perkins)

2. National notices about Evergreen (Pat Labine, Admissions)

3. The Agroforestry winter module

4. Expansion of Eco. Ag. to 3 quarters (already on the books for '85-86)

5. Agriculture internship contacts (Labine, MacGregor, Coop Ed)

6. Community awareness and feedback on the Eco. Ag. plan

7. Farm Manager position (worked out this summer through the work of John Perkins, Walter Niemiec and the DTF on Farm Board re-organization. This is in place for the '84-85 year, with hopes of that the legislative request for a permanent farm manager position is successful.)

B. With Legislative Funds

The new biennium budget requests funding for:

1. A person within the Center for Community Development associated with Ecological Agriculture

2. A Farm Manager position

C. With funds from private donors and foundations

Through grant request(s), we would like to generate funds for these major program development items:

1. Farm enhancement: Building design and construction, equipment acquisition, reorganize garders and grounds, irrigation system, paving, lights, and driveways. Dutch lights, permanent signs.

2. Curriculum enhancement: Development of short courses, library enhancement, faculty development, speaker series, scholarship fund for MES candidates

3. Development of a public outreach program

D. Very short term needs, this year

1. Grants development, and fund-raising contacts, and promotion of development plans in natural and regional publications

2. Planning and promotion of a summer program prototype

3. A simple brochure about Eco. Ag. at Evergreen, for use by Admissions, primarily

4. Some support for national notices

5. Help from Jon Collier's office with building design, and farm layout and landscape design

6. A small exhibit to enhance local and regional exposure at fairs, etc.

7. Funding for Dutch lite expansion ($2000)

VII. Other Institutional responses to Ecological Agriculture

Until very recently, and with the exception of Evergreen and Santa Cruz, colleges and universities have not dealt at all with alternative agriculture. Since 1970, the significant work has been done by private groups such as Rodale (Organic Gardening magazine), the New Alchemists, and Tilth. In the last year or two this has begun to change. Michigan State and The University of Maine are important examples.

A. University of California at Santa Cruz
Agroecology Program
Environmental Studies, College Eight
Santa Cruz, CA 95064

The program at Santa Cruz is most similar to TESC. Agroecology is taught within Environmental Studies. One faculty, Steve Gliessman, is associated with the program, and teaches several agroecology courses and supervises honors and graduate student research projects. The Farm at Santa Cruz is much more developed than TESC and more separate from the academic program. It occupies 17 acres, has a staff of 30, a yearly budget over $300,000 and is almost entirely externally funded and self-funded. Much of the farm work is done by apprentices who are non-credit, special students (administered by UCSC Continuing Education Office)

The Agroecology Program emphasizes discipline-based research and is reformist in its political stance. It works with mainstream agriculture as well as organic farmers and avoids labeling itself as "alternative". Its name has been carefully chosen to mean "the study of the ecology of agricultural systems".

B. University of Maine
Orono, Maine 04469

After three years of negotiations, Wolfe's Neck Farm, a well known and prosperous 600 acre organic beef farm, has been given to the University of Maine. The University is now is the process of considering an entirely new four-year curriculum in "sustainable

agriculture". An article in the July/Aug issue of New Farm, "College Considers Chemical-free Curriculum", described the terms of the donation and the developments at Orono. Evergreen received a letter from the University of Maine in June asking a number of questions about TESC's experiences with programs in alternative agriculture.

C. Michigan State University
Small Farms Project
Kellogg Biological Station
Hickory Corners, MI 49060

The Kellogg Foundation has given a very large grant to MSU's field station, part of which is being used to develop 3 demonstration small farms ranging in size from 5 to 120 acres. They are intended to serve as prototypes for the evaluation of small and subsistence farming. To what extent these projects will affect the curriculum at MSU is unclear. MSU's Dean of Agriculture was quoted as saying "Subsistence farming is a topic that land grant university administrators...avoid like the plague. But we're plowing new ground here. It represents a real change in agricultural thinking. There are literally thousands of these types of farms around the state and nation; someone is going to have to provide answers for their needs." He added that underdeveloped countries have expressed interest in the project. "They see it as a possible model for subsistence farming in their own locales."