Welcome to:

# Ann Arbor's

# Community Organic Garden

Information Pamphlet

ANN ARBOR'S COMMUNITY ORGANIC GARDEN: A LOCAL RESOURCE AND LEARNING EXPERIENCE!

Welcome to your community organic garden. We would like you to feel that we are here to help you with your gardening and farming, and in general, to provide a learning experience. At this site we hope to test and provide information on the methods and practices of organic gardening. We also hope to become a clearing house of information on local resources for gardening and farming organically.

This U.ofM. seven acre community organic garden is the joint project of the Ecology Center and the School of Natural Resources. A first year grant was provided by the Institute for Environmental Quality under the directorship of Dr. Stanley Cain. The project director is, Dr. Robert Zahner; the garden manager is, John Remsberg; and his assistant is, Michael Grear.

In addition to testing and demonstrating organic gardening methods and practices we hope to discuss and demonstrate a more ecologically sound life style. The environmental crisis our species faces today demands attitudinal and value changes which, hopefully, lead to the necessary changes in our behavioral patterns. For example, we can recycle and compost w/the people working at the garden food scraps from the kitchen for our garden. We hope to discuss air and water pollution and the use of hard, non-selective, persistent, chemical pesticides as they affect plant growth and human welfare both physiologically and psychologically. Again, we hope to demonstrate that organic gardening methods do work and can be used successfully in small gardens and farms. Perhaps we can eventually demonstrate that the nation can be fed organically and be quite a bit better for it. In the mean time we honestly hope that this short collection of materials will be of some interest and help to you! Your comments and feedback are welcome and appreciated!

MG

# WHAT IS AN ORGANIC GARDEN?

What is an organic garden? It is different things to different people, and a good concise definition is hard to come by. From a purely technical standpoint, an organic garden is one that is raised without the aid of artificial fertilizers or pesticides. This means that manure is used instead of 8-8-8 fertilizers, birds replace chemical bug killers, and prevention is the cure for plant diseases. But an organic garden is much more than this. The organic garden is the doorway to a new way of life, a way of life in which man is the caretaker of the Earth instead of its self-appointed master.

The earliest men were little more than animals. They ate what they could secure from the land with little effort, their by-products were easily absorbed by their environment, and they lived by a set of laws enforced on them by the world in which they lived. Man today is still only an animal, but for the last few centuries he has increasingly attempted to live by his own rules with respect to his environment. There is a growing awareness, however, that this disregard for the world we live in is endangering our health and well-being. And so, the circle is complete. Mankind must once again learn to live within the boundaries of the natural laws imposed on him by the limitations of the world on which he lives.

Organic gardening is a simple, good way to learn many of the lessons that need to be learned. Who knows, maybe if we learn to live without pesticides, we can learn to do without other parts of the "good life." Like cars. And televisions. And greed. And ulcers..

CAN WE FEED THE COUNTRY ORGANICALLY?

YES! But you must help. The organic food movement is just beginning to get wide recognition, and it needs support from all quarters. There are three major areas that need attention:

CONSUMER DEMAND: Before farmers can be convinced to change to organic gardening methods, there must be a guarantee that customers will prefer organic food over non-organic food. You can help by buying your food at the stores that sell organic foods. Educate yourself about the advantages of organically produced fruits, vegetables, grains, and meats, and spread the word among your friends. If you aren't totally convinced of the necessity for food without poisons on it, consider this: Many of the fresh products you buy in the grocery stores still have enough pesticides on them to kill insects when you eat them. Whatever you think about bugs, they ARE alive. And anything that will kill a living creature can't be good for your children!

MARKETING OUTLETS: Because of the large amounts of labor involved in the production of food without poisons, consumers must expect to pay slightly more for their food. But be sure that what you get is really organic! Your best buys will be directly from the farmer who advertises organic food; then you can ask him how his food is grown. Eventually cooperatives that specialize in organic foods will develop, then farmers will have a better bargaining position with the supermarkets. Until then we will have to depend on "health food" stores and roadside markets for the major part of our organic foods.

Both the A² & Detroit Farmers Markets are good places. Several food coops in town carry organic foods. One of the vegetable coops is working w/ local farms, orchards, & poultry places to support these sources of organic products & to get coop members actively involved in the source of their food.

RESEARCH: This is perhaps the most crucial area for development in the organic movement. Large sums are being spent for research on chemically-oriented agriculture. The chemical industries have huge lobbying operations in Congress and in the state legislatures to insure continuation of funding for their pet projects. We must make sure that money for research is provided to find ways to reduce labor requirements and increase quality of food produced.

In summary, it is important to patronize those who are growing and selling organic foods now and to open new demands so that others will join the movement back to food that is good and good for you.

D.C.

ORGANIC GARDENING AND FARMING: LOCAL RESOURCES

ANN ARBOR'S COMMUNITY ORGANIC GARDEN

INFORMATION CLEARING HOUSE FUNCTION

LOCAL RESOURCES

Local Organic Food Stores:

EDEN ORGANIC FOODS
211 South State Street
#769-8444

FOOD CO*OP
Main Street

Sources of Seeds and other Gardening and Farming Materials:

FARM BUREAU
5 West Forest
Ypsilanti
#HU3-0662

FARMER'S MARKET (Spring Time)

Sources of Composting and Mulching Materials, Soil Conditioners, and Natural Fertilizers:

LOCAL FARMS

CITY TREE TRIMMERS

U.OF M. LEAF DUMP

ANN ARBOR'S SEWAGE TREATMENT PLANT
49 South Dixboro Road
#971-4314

SALINE SEWAGE TREATMENT PLANT AND WATER WORKS
North Ann Arbor Road
#429-7260
#429-9080

ORGANIC GARDENING AND FARMING: LOCAL RESOURCES

Sources of Books, Pamphlets, and other helpful written Materials:

RODALE PRESS INC.
33 East Minor Street
Emmaus, Penna. 18014

U.S.D.A. for Washtenaw County
6101 Jackson Road
#662-3900
Also an office at City Hall in Ann Arbor

Soil Conservation Service
300 South Thayer
#761-5647

RIGHT HERE! AT YOUR COMMUNITY ORGANIC GARDEN!

# To Know Your Environment!

## ANN ARBOR COMMUNITY ORGANIC GARDEN

University of Michigan

Location: Latitude 42 17; Longitude 83 44

Altitude: 850 to 810 feet above sea level. The Huron River is 750 feet above sea level here.

Landform type: Glacial sedimentary cover outside shield.

Natural vegetation: Summer-green deciduous forest.

Soil type: Gray-brown podzolic. (sandy loam)

Rainfall: Average 30 inches per year.

Growing Season: Average length 180 days. Range 145-205. Average date of last freeze--April 23. Average date of first freeze--October 21. It may freeze as late as May 12 or as early as September 29th. The earliest safe day to plant is May 15th.

Koppen Climate Classification: Dfa---Humid continental climate; warmest month mean temperature over 71.6, Coldest month mean temperature under 26.6, Sufficient precipitation all months.

Size of our garden: Approximately seven (7) acres or 301,000 square feet. One acre equals 43,560 square feet.

MG.

Ann Arbor Community Organic Garden

## --W E A T H E R--

Ann Arbor's climate is controlled by its location with respect to major storm tracks and the influence of the Great Lakes. The normal wintertime storm track is south of the city, and most passing storms bring periods of snow or rain. In summer most storms pass to the north, often with brief showers in the area and occasionally with heavy thundershowers or damaging winds. The Great Lakes smooth out most climatic extremes. Precipitation is distributed evenly through all months of the year. The most pronounced lake effect occures in the colder part of the winter. Arctic air moving across the lakes is warmed and moisened. Cold waves approaching from the northern plains are much reduced in intensity. However, the price is an excess of cloudiness and very little sunshine in winter. Summers in Ann Arbor are warm and sunny. Brief showers usually occure every few days. Extended periods of drought are unusual. Each year sees two or three series of days with temperatures in the nineties. The highest temperatures are often accompanied by high humidity. In winter skies are cloudy and temperatures average near the freezing point. Day to day changes are not large and the mercury drops to near or a little below zero once or twice a year. Winter storms may bring rain, snow, or both. Freezing rain and sleet are not unusual. Most wintertime precipitation is more or less steady and continues for several hours. Snowstorms average about three inches, but heavier amounts accumulate several times each year.

The growing season averages 180 days in length, and has ranged from 145 days to 205 days. Average date of the last freezing temperature is April 23rd; average date of the first freezing temperature is October 21st. A freeze has occured as late as May 12th, and as early as September 29th. Conditions are usually satisfactory for growth of all vegitation. The cold waters of the Great Lakes inhibit plant growth in the spring until all danger of frost is past, and warm waters delay autumn frosts, making the climate particularly favorable for orchards and small fruit growing.

We can expect the following average amounts of precipitation at our garden:

January---2.05
February--2.08
March-----2.42
April-----3.00
May-------3.53
June------2.83
July------2.82
August----2.86
September-2.44
October---2.63
November--2.21
December--2.08

Yearly average precipitation: 30.95 inches.

MG.

# PLANT DISEASES

Like humans, plants are attacked by a number of diseases. Plant diseases can often cause more damage than insects or other pests, simply because by the time the diseases become apparent, it is too late to save the plant.

FUNGAL DISEASES are caused by small, colorless relatives of mushrooms. Many of the mildews, rots, and grain rusts are of this type.

BACTERIAL DISEASES, such as the tomato bacterial wilts, kill the plant by clogging the plant's circulatory system. By the time the symptoms are apparent, it is too late to save the plant.

NUTRITIONAL DISEASES are not really diseases, but mineral deficiencies. Examples are clubroot of cauliflower and blackheart of celery.

VIRAL DISEASES are commonly spread by insects sucking the juices of the plant. Examples are many of the yellows diseases of cabbage and the mosaics of beans, tomatoes, and other crops.

PREVENTION of plant diseases is by far the best cure. One of the best ways to control disease is to use good cultural techniques, such as crop rotation, good sanitation, and removal of diseased plants. Insect control helps prevent the insect-borne diseases. Use of resistant varieties has been helpful in controlling many diseases, especially those caused by fungi. Sometimes, this selective breeding can backfire. While breeding for other desirable qualities, scientists have occasionally lost resistance to a certain disease. This is what happened in the case of the Southern leaf spot that is causing so much trouble now on corn.

J.R.

# INSECTS IN THE GARDEN

There are more kinds of insects alive in the world today than any other class of living creature. They are found in many types of living conditions, but they are always found in gardens. You can count on that.

Insects do many kinds of damage to garden plants. Some are chewing insects that eat great holes in leaves or fruits. Others bore into roots, stems, or fruits to make them undesirable. And many species spread diseases to plants while sucking their juices.

In his struggle to overcome the insect problem on his crops, Man has used many weapons. Some of them have caused more problems than they have solved.

The organic gardener has at his disopsal several methods of insect control at his disposal that will not harm his environment. The mose basic one is knowledge of the insect's life history. The timing of planting, for instance, can often prevent damage to crops by certain insect species by allowing the insects to pass the stage when they cause damage before crops are old enough to be attacked.

Some insects can be controlled by certain diseases, such as the famous milky spore disease that controls Japanese beetles.

Many creatures--such as birds, toads, turtles, and skunks--feed heavily on insect pests and are valuable control agents.

Many gardeners are using predatory insects, such as the lady-bird beetle and praying mantis, to attack the insect pests.

One thing should be remembered, though. There is no such thing as a totaly "good" or "bad" insect. That worm on the cabbage probably has a brother on the weed across the road, and the bee that makes your honey can be quite a pest when he's in your pants.

D.C.

INSECTS TURNED "PESTS"

in

Ann Arbor's Community Organic Garden

1. POTATO BEETLE: known as the Colorado potato beetle the adult is yellow with black stripes; three/eights inch long: the larva is red-brick colored; humpbacked; up to three/fifths of an inch long; and does the most plant defoliation. It is especially destructive to small plants.

   To control, handpick beetles and crush egg masses; scatter common wheat bran in early morning over dew-covered vines; the insects will eat the bran, swell up like ticks and fall dead shortly.

2. IMPORTED CABBAGE BUTTERFLY: since its introduction a century ago, it has spread across North America to become a crop pest. Besides cabbage, the larva feeds on other mustards, and also on nasturtium. This is one of the first butterflies to emerge in spring. Scientific name: Pieris Rapae.

3. ROSE CHAFER: (Macrodactylus subspinosus) Familiar to almost everyone as the "Rose Bug" even though it is a beetle, perhaps because its wing covers are not so hard and horny as most. The adult is tan, rather slender, one-third of an inch long, with prominent, long spiny legs. It is distributed through the eastern states and goes as far west as Colorado and Texas and it feeds on quite a long list of plants. For example, the apple, bean, beet, blackberry, cabbage, corn, cherry, elder, elm, hollyhock, hydrangea, grape, peach, pear, peony, pepper, poppy, raspberry , rose, strawberry , Virginia creeper, and small grains and grasses. It is most troublesome in sandy areas such as our garden and seems to increase in importance as one goes north from New York City.

   The beetles appear in swarms in late May or early June and feed first on flowers, especially roses and peonies, sometimes iris, then go to newly set fruit, being most injurious to grape blossoms, foliage, and young berries. There is only one generation, the feeding period lasting three to four weeks. The eggs, laid in sandy soil, hatch in one to two weeks and the larvae, resembling white grubs but thinner and smaller, up to three-forths inch long, feed on roots of grasses and sometimes nursery seedlings, then move down in the soil for winter.

   To control, handpicking helps to keep the chafers off roses, and some gardeners protect their choicest plants with a temporary cheesecloth fence, streching somewhat higher than the bushes. Even if the top is open, the beetles seem not to fly over the barrier.

4. CUTWORMS: High in the ranks of gardening headaches are the cutworms, smooth, fat, soft, repulsive caterpillars, larvae of night flying moths, family Phalaenidae. Different species occure all over the world and injure almost all crops. The solitary or surface cutworms, including black, bronzed, and dingy, are most likely to harass the home gardener. They feed on plants near the surface

of the ground, cutting off succulent stems of tomato, bean, cabbage, some other vegetables, and flowers soon after they are set out. Most surface cutworms have similar habits. They winter as partly grown larvae in cells in the soil, under trash or in clumps of grass. They start feeding in the spring, working only at night, and remaining coiled up in a ball just under he earth surface during the day. When full grown they dig down several inches in the soil to make a cell where they pupate from one to eight weeks, or over winter. Southern species have several generations a year;;most northern species have but one, with moths appearing in summer.

To control, an old method of circumventing cutworms without chemicals is to place a collar of stiff paper, thin cardboard, or plastic around each plant as it is set out. This collar should go down an inch or two into the soil to hold it down and to foil worms working just under the surface.

Another suggestion is to put a ring of wood ashes around the plant and soak the ashes. The introduction of toads helps as they consume cutworms.

MG

# COMPOSTING

Composting is the basic tool of organic gardening. Simply stated, it is the process of returning organic matter to the soil. Many different methods of composting have been used through the centuries. All try to increase the efficiency of this recycling process.

In our composting yard we are using several different kinds of compost piles. All rely on the same basic principle of creating an optimal condition for bacterial decay, but differ in their suitability for certain surroundings and materials used in them.

## Cube Composting

The cube is constructed of 2 inch lumber and 1/2 inch hail screen. Each side is 4 feet square, thus holding one ton of compost when filled. The cube can be taken apart in two sections when the compost is ready to be turned, and then reassembled beside the pile. The original pile can then be shoveled back into the cube.

The following recipe was used for the compost put in the cube May 25:

| | |
|---|---|
| shredded horse manure | 1 part |
| shredded leaves | 2 parts |
| shredded sod | 2 parts |
| rock phosphate | 1/2 bucket |
| soybean meal | 1/2 bucket |
| pond water | 30 gallons |

## Bin Composting

The bin is constructed of cedar post and 1x6 lumber. The bin has four compartments, each open at one end. This type of construction easily allows compost to be shoveled from one bin to another when it is ready to be turned. When the compost has been turned and placed in each consecutive bin it is left in the last one until it has cooled and can be put on the garden.

The compost in the bins was made up of:

| | |
|---|---|
| shredded horse manure | 2 parts |
| shredded leaves | 2 parts |
| shredded sod | 1 part |
| soybean meal | 1/2 bucket |
| tap water | |

J.R.

## AnaerobicComposting

In this type of composting the pile is kept covered with dirt or black plastic. With no oxygen being allowed to get into the pile the organic matter is broken down by anaerobic bacteria. This type of composting is somewhat slower, but just as effective as the preceding methods.

The mixture in this compost pile is:

| | |
|---|---|
| unshredded sod | 2 parts |
| unshredded leaves | 2 parts |
| unshredded manure | 1 part |
| soybean meal | 1/2 bucket |

KNOW YOUR GARDEN

## Snap Beans

Snap beans are one of the most popular and widely grown of all garden vegetables. As as a group, beans consist of two major species that fall roughly into about 200 groups and nearly 2,000 different varieties. Snap beans are in the family Legumiosae, which also includes such widely varied species as sweet peas and locust trees. This family of plants is noted for its ability to replenish nitrogen in the soil through the action of bacteria in the small nodules, or lumps, on the roots. Snap beans are natives of the western hemisphere.

Snap beans are easily grown and are excellent for beginning gardeners. The soil for beans should be just slightly acid (pH 5.8 to 6.5), with not too much clay, and not too rich in nitrogen. Plant the beans about two inches apart and one inch deep in rows about 18 inches apart. After the seeds germinate (about 5 days), thin them to about 5 inches apart. Be sure to wait until the soil warms up in the spring (about May 20 in Ann Arbor) to plant the beans, as they will not stand frost. Bush beans can be planted at two-week intervals for a continuous crop, while pole beans will bear all year.

Snap beans are often attacked by two diseases, anthracnose and mosaic, and the Mexican bean beetle. As in other facets of life, prevention of disease is the best cure. Buy resistant seed when possible, rotate your crops, and avoid working in the beans when they are wet. Beetles can be picked off the plant, the earlier the better. Birds and toads will help you in this chore, so encourage them.