

## Alternative agriculture

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growth implants. Microbials — substances that supposedly work with the naturally occurring microbes in the animal — are used in the organic dairy herd when problems such as mastitis crop up.

"We need to develop a national agricultural policy," Harding said, "one that is conducive to sustainable agriculture."

### Crop Management

A former research associate of Buckminster Fuller rounded out the alternative agriculture conference program with his own views on the worldwide agricultural situation and practical advice on organic soil, pest and disease management. Bill Wolf, president of The Necessary Trading Company, an organic farming supply business, has been working with sustainable food systems (agricultural systems that have sustainable yields without relying on chemical fertilizer or pesticides) since 1968.

Wolf believes synergy — a word coined by futurist Buckminster Fuller meaning synthesis of energy, or doing more with less — as the major principle of sustainable agriculture. A self-proclaimed generalist, Wolf

promotes the use of biologicals, biological pest controls and the ideas of biological soil management and the prevention of disease and pest problems at matching crops to climate and establishing healthy plants. His four basic principles pertaining to healthy soil management are as follows:

- management of the air in the soil (in general, increasing the amount of air);
- management of the natural water cycle;
- management of decay cycle — in order to maintain the crucial microbial life; and
- management of the soil mineral cycle.

Stressing prevention as the key to effective disease and pest management, Wolf outlined steps in producing a healthy crop: keeping moisture level constant — a wet/dry, wet/dry situation will reduce pore space and decrease microbial activity, two highly unfavorable conditions; and intercropping.

Also increasing and quality improvement of organic matter (greater than 3.5 percent, 5 percent or more organic matter by volume is best); cover cropping — green manures; regular soil

testing, balancing and correcting of mineral deficiencies; increased cation exchange capacity of the soil; selecting appropriate crops for available climate/location; and realizing the interrelationship of plants, soil, etc., and working within it.

Wolf foresees a "crisis in agriculture" due largely in part to air, water and land pollution created by conventional farming methods. He believes, however, that this dilemma can be rectified but only through a joint, group effort of all those in agriculture.

### Bio-intensive Method

Brian Hoave, who studied under John Jeavens and learned his method of bio-intensive mini-farming, demonstrated for the conference group the basic technique of the method, that of double digging, during the afternoon session.

Using a sharpened Smith & Hawkins spade, Hoave, a graduate of Emerson College in Sussex, England, skimmed off the grass/weed layer of the demonstration plot. Then, following Jeavens' method (except for the instruction to wet the soil to a certain degree as outlined in Jeavens' book. Grow More Vegetables, he dug up the first 12 inches with the spade, afterward loosening the next 12 inches down with a garden fork.

After aerating the sample 5 foot x 20 foot plot and raking it smooth, Hoave added compost. Barbara Crawford, Lewis county high school vocational agriculture instructor, took over and sprinkled on the organic fertilizer components—bone meal, kelp meal, leather meal, green sand, etc. Explaining that it takes two hours to dig a 100 square foot bed, and 11 hours work from start of a bed to harvest of the crop, Rioch said that on a space basis the cost is 1/10 of conventional means and returns run an average of \$350 per 100 square foot.

Barbara Crawford completed the demonstration on double digging by explaining hexagonal center, the spacing technique used in the beds. With this method of spacing plants, requirements are met while at the same time plants are spaced closely enough together to create their own microenvironment.

A large volume of information was conveyed to those in attendance at the Alternative Agriculture conference. During the panel discussion period held at the end of the day, the dissemination of information on the subject of alternative

agriculture/organic farming was raised as one of the most important considerations. Organizations such as Ecology Action, the Institute for Alternative Agriculture, the Organic Crop Improvement Association and university research groups were indicated and challenged to provide the network through which the information could be distributed to the general public.

Marketing, also, was of major concern to those in the audience. Benjamin Brown, from the West Virginia Department of Agriculture, summed it up early in the day when he said "marketing is just as, or more important than any other production step the farmer practices, yet sometimes it is virtually ignored."

In reference to marketing, Tom Harding stated that in the last three to four years, a multi-million dollar market for organically grown foods has been created, and that he could find buyers for any West Virginia-grown organic produce. A good example of market planning was set by Rioch. For example, to save time this year he pre-sold his entire crop to a wholesaler, Organic Farms, Beltsville, Md.



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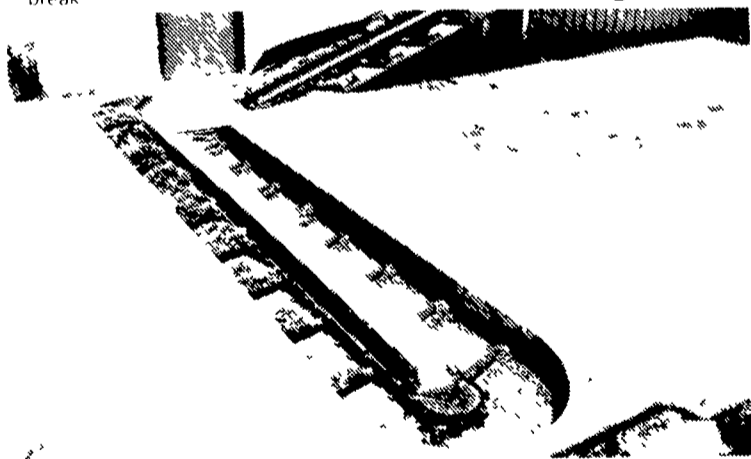
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