Organic farming

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post — produce more nutritious food is not true.

Whatever the type of fertilizer, it does not influence the nutrient composition of the plant, or its amount of protein, fat, carbohydrate, or vitamins. These nutrients are determined by the genetic composition of the seed and the maturity of the plant at harvest.

A plant grown in soil deficient in nutrients will simply fail to grow well, may be stunted, and yield poorly. Animals that do not receive essential nutrients from pasture or in the feedlot will also suffer.

The meat of an animal raised on organically grown feed will be identical to that of an animal fed on conventionally grown feed, provided that both animals receive enough feed and it contains all the nutrients essential for growth.

Fertilizers do influence the mineral composition of soils. Trace elements essential for plants such as iron, manganese, copper, and zinc or those non-essential for plants essential for animals such as iodine, cobalt, and selenium may be low, and plants grown on such soils will be deficient when consumed as food or as animal feed.

Lack of these minerals can lead to physiological disorders and problems with growth in animals. Nutrients are not supplied in sufficient amounts by non-manufactured organic materials because of unbalanced composition As plants remove these from the soil, a supplement must be provided in order to replenish the soil's natural mineral composition

Soil improvements will increase the yield and size of the crop, but will not affect major nutritional characteristics (other than mineral content) of the crop grown on it.

For example, it is not possible to raise an apple to have the vitamin C content of an orange by adding ascorbic acid to the soil Studies have shown that manure treatments did not significantly increase ascorbic acid, carotene, iron, or copper in rye or potatoes.

Another study showed that carrots treated with chemical fertilizers did have a higher carotene content than those fertilized with compost, but the difference was attributed to the larger size of the carrots grown in chemically-treated soil. The nitrogen content did increase in soils when manufactured fertilizers were used, and this would account for the high yields that resulted.

Pest control problems

Pests can also be a problem to crops. They can ravage a large-scale commercial crop or a backyard garden. Chemical insecticides, herbicides (weed killers), and fungicides used in commercial production of most food crops in the United States are abhorred by followers of the organic movement.

But pesticides have been proven safe when applied according to the label directions, and residue tolerances set by the Environmental Protection Agency are monitored by the Food and Drug Administration

It is possible to produce crops without the use of pesticides (particularly herbicides), but at a sacrifice in the quality of the product. Objectionable insect damage, insect fragments, and plant diseases are almost uncontrollable. To garden organically and prevent plant diseases the recommendations are simply to follow good crop management practices

Rotation of garden location, altering the site every year if possible for "related" crops, such as tomatoes, potatoes, and eggplant; or cabbage, broccoli, mustard, kale, radishes, and turnips (leafy crops versus root crops).

Use of proper fertilization;

Planning disease-resistant varieties and only healthy plants;

Use of disease-free seed;

Use of proper irrigation

Even by following these good management practices, insect or disease infestation can be expected, and the quality of an insect-free crop is not likely to be achieved. Insects can consume appreciable quantities of food, and therefore, yield will decrease.

This is a severe problem for large-scale production farms. Organic gardening may work when properly done, but organic farming is more risky since the high yields and high market grades cannot be guaranteed.

This problem with decreased yield poses another problem when organic farming is used. Famines are historic facts.

One is reminded of the blight which hit the potato crop in Ireland in the last century when a million people starved and another million emigrated.

Experts have estimated that if pesticide use were prohibited in the United States, crop losses would amount to 50 per cent and food prices would increase four or five times.

An estimated 50 million Americans alone would face starvation if organic gardening was the only agricultural method used.

At present, one per cent of our farms produce 60 per cent of the vegtetables, 45 per cent of the fruits and nuts, and 35 percent of the poultry that is consumed. This is possible only by using scientific methods of farming, and using manufactured fertilizers and pesticides.

The amount and cost of organic fertilizer needed to fertilize large areas of land is prohibitive. Commercial fertilizers provide plant nourishment in a concentrated form, and they are far more uniform in composition than farm manure.

Manure has only one-twentieth of the plant nutrients provided by chemical fertilizers, and has a lower proportion of phosphorus relative to other nutrients, which depending on the crop, can be detrimental to plant growth.

Comparative costs show that a pound of nitrogen is provided by garbage compost at about $12 per pound, by dried manure at about $5 per pound, and by commercial chemical fertilizer at about 7.5 to 15 cents per pound. The reason for the high cost-of organic foods is obvious

Special problems must be anticipated when using organic fertilizers. While organic foods may contain chemical pollutants, biologically speaking they may be the most contaminated of all

Organic fertilizers of animal or human orgin are likely to contain gastrointestinal parasites and disease-causing bacteria and viruses.

Organic produce is more likely to be contaminated with these, and is no less likely to be free of contamination by filth, mold, natural toxins, or even heavy metals such as lead, cadmium, and mercury, than is food grown with manufacutred fertilizers.

Levels of toxic materials in organic waste should be measured, but this is rarely done. The use of sewage sludge, in particular, requires knowledge of its heavy metals content and the soil it is applied to, but few organic enthusiasts realize the possibility of such contamination.

Apart from health issues, one attribute organic enthusiasts claim for natural foods is that they taste better than what's available at the supermarket. Personal taste preferences determine the choice.

Organic foods may have desirable characteristcs not always found at the supermarket, and some may be more flavorful and fresher depending on the speed of marketing. However, an increase in vitamins and minerals is not likely to be one of these characteristics.

Higher costs of organic

It is up to the consumer to decide if the higher cost of organically-grown produce is worth the possibility of finding fresher flavor. However, all natural foods are not more expensive than regular supermarket items. A USDA market basket survey in 1971 found that a collection of 29 standard foods cost $11 in a supermarket, while their organic-label counterparts purchased in the supermarket's organic section cost $20.30.

In 1971 the organic food movement was barely starting; a more recent survey (May 1979) shows that prices can be quite variable.

No laboratory test exists to prove if a vegetable has been fertilized organically or with manufactured fertilizers. Occasonally, checks are made of products labeled "organically-grown" to analyze for pesticide residues, and occasionally some residues are found, which may be the result of accidental contamination, but all that is labeled "organic" may not actually be so. Putting on fertilizer one year and nothing the next is not "organic" production.

Consumer's choice

The consumer's choice of whether to "go organic" depends on a wide variety of factors, including taste preference and economics — but concern over the nutritional content of fresh produce is not a justifiable claim for choosing organic.

Paying a higher price for organic foods may be all right for families who can afford it, but not if it leaves the food budget so strained that other necessary foods for a nutritionally balanced diet are crowded out. Freshness of organic produce is not always gauranteed if it has to be shipped long distances

The answer to the controversy between the two schools of thought may be to combine them. Use the method most applicable to a given situation, and make sure that neither bad environmental effects nor food shortages occur.

For some people, tilling your own garden is an experience whose therapeutic value is immeasurable. For these, organic gardening is a very practical approach and a resourceful way of regulating the organic material in the soil.

But if everyone decided to "go organic," there would not be enough manure available for an "all-organic" agriculture, and if there were it would be extremely expensive to handle and distribute it. Both methods have merit when properly and timely applied — so why not combine the two and enjoy the best of both worlds?