ORGANIC LIVESTOCK AND ANIMAL PRODUCTS

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SUMMARY

Today's consumer is keenly aware of nutrition and food safety and is more demanding of "natural" or "organic" foods that are free of "synthetics", especially pesticides, antibiotics and hormones. Organic foods are produced without the use of "synthetics". Such foods are raised on soil that has been free of any synthetic inputs for at least three years. Livestock, to be considered organic, must originate from organic sources and be fed only organic feedstuffs without synthetic supplements or treatments. All animal products derived from such livestock must be processed, stored, handled, packaged and merchandised without compromising the organic product. A list of "approved synthetics" and "prohibited naturals" is being developed. A third party accreditation program certifies the authenticity of these products at all stages.

Organic livestock must be the progeny of organic stock or be from dams that have been on an organic regime for at least the last one-third of gestation. These progeny must be fed certified organic feeds and supplements only. Dairy stock must also be free of any synthetic input for at least 12 months before its milk is considered organic. Poultry and eggs must come from chickens and hens that have been fed only organic feeds from birth. The use of antibiotics either subtherapeutically or for health purposes is prohibited as is the use of hormones. If used, those animals must be diverted to conventional markets.

Those animals identified as slaughter stock must be raised without the use of any synthetics for their entire lifetime. Goats, sheep, swine, poultry and rabbits have similar requirements for meat production.

Introduction

In the evolution of man from a hunter and nomad to today's society there have been a number of marked events or developments that have identified or dictated agricultural advancement. Table 1 enumerates the major social events that have or will impact on the world's agriculture. Since the industrial revolution we have gradually moved to chemical dependency until the recent application of biotechnology. Now we are considering sustainability which includes organic agriculture.

Organic agriculture is based on a wholistic system that avoids or largely excludes the use of synthetically compounded fertilizers, pesticides, growth regulators, antibiotics, and livestock feed additives. It involves farm management practices of crop rotations, use of crop residues, animal manures, legumes, green manures, off-farm organic wastes and mineral-bearing rocks as well as biological pest controls to achieve sustainable productivity. The land must be free of all synthetics for a minimum of three years in order to be considered organic. Thereafter, all crops grown on such land are considered organic if they are not compromised by synthetics and the livestock raised on such land and feed in turn are certified as organic if fed only organic feeds and managed in an organic manner without the use of synthetics. Finally, the animal products derived from these animals must be processed, packaged and handled without contact with non-organic substances. A certification and inspection system monitors the entire system to ensure, document and verifythe entire organic food chain. A list of approved materials and practices governs the use of any adjuncts to the system. Records and a complete audit trail must be maintained on the entire process. A 1987 UN-WHO survey of pesticide use among selected countries dramatically demonstrates the degree of dependency on pesticides by various countries (Figure 1). Organic agriculture is promoting the application of only natural or biological pesticides or alternative management systems. Figure 2 shows the weekly intake of heavy metals as a percentage of the safety level, by country. This further demonstrates the need to reduce exposure and intake of these cumulative metals that impact on human health and thus add to the need for a safer food supply.

Basically, organic agriculture is environmentally sound, resource efficient, economically viable and sustainable over the long term. Its fundamental concepts are that healthy soil produces healthy crops which produce healthy animals that contribute to healthy people. A common set of principles aimed to encourage stewardship of the earth working in harmony with natural systems and manipulating existing biological entities to produce wholesome, nutritious food and sustainable agriculture is the essense of organic farming. Approximately 5% of the food sold today in the developed countries is organic. There is an increasing demand for organic foods, especially from chemically sensitive people. Codex Alimenterius provides international guidelines for the standardization of organic foods to:

- protect consumers against deception and fraud;
- protect producers of organic products against misrepresentation;
- ensure that all stages of production, processing and marketing are properly inspected;
- harmonize the production, certification, identification and labelling of all organic foods.

Organic Livestock Production

Unlike organic plant production, animal production lacks the experience, tradition and guidelines that have been developed by years of plant production under organic methods. In the case of organic livestock production, those animals used for meat or milk production, must originate from organic sources. The dam must have been fed 100% organic feeds and have been free of any synthetic treatment at least during her last third of gestation and preferably throughout her entire gestation or life. Slaughter stock must be raised without the use of any synthetics for their entire lifetime. Dairy stock must be free of synthetic inputs for at least twelve months before its milk is considered organic. For goats, sheep and swine a similar or proportional time interval is required, relative to species, gestation, lactation or slaughter age times. Under some organic programs up to 10% of a herd or flock may be brought in annually from non-organic sources for expansion or replacement purposes. However, these animals must go onto a totally organic regime immediately and pregnant females must be no closer to parturition than the last third of gestation.

Good husbandry practices must be observed at all times. No animal should be denied proper health treatment in order to keep it "organic" or free of medication. Vaccination of livestock is permitted where known problems exist and where required by state or federal regulations. The use of veterinary medications on livestock in the absence of illness is prohibited. Thus, subtherapeutic administration of antibiotics and other subclinical medications are not permitted. Similarly, the use of growth promotants is not allowed. Natural substances, as long as they are not toxic compounds may be used for treatment of livestock. Some approved synthetic remedies may be used until a natural preventative or treatment can be identified. Such products will be reviewed periodically and added or deleted as indicated.

A number of topics that are still being debated, for incorporation or prohibition, in livestock production systems are:

1. Artificial insemination.
2. Embryo transplantation.
3. Genetically altered tissue.
4. Topical application of antibiotics and other "synthetics".
5. Housing and grazing requirements.
6. Pesticide use under unusual conditions.
7. Emergency feed allowances.
8. The approval of new materials as they arise.
9. The rejection of presently accepted synthetics as new natural materials are proven or discovered.
10. The acceptability/prohibition of mixed operations (partially organic, partially conventional systems) on the same farm.
11. Appropriate buffer zones between organic and conventional production units on the same farm or with neighboring farms.
12. Inspection, monitoring and certification programs to verify the integrity of organic production, processing and marketing of livestock and livestock products.

Organic Animal Products

Recognizing that the original source of organic foods must be organic, it becomes evident that all further processing of the ultimate food product must continue in an organic system that prohibits contamination or

compromise of the product. Milk, meat and eggs must be processed in a sanitary manner without contact with any synthetics at all levels and without compromise by the addition of non-organic ingredients.

Milk and milk products must be from organic dairy stock and the milk and its products must be handled, processed, packaged and transported in a prescribed manner that meets all organic standards.

Meat and poultry similarly must be slaughtered, and kept separate, without contact with conventional meat and poultry. For the production of sausage, cured, smoked, dried, frozen or other types of meat products, all ingredients must be from organic sources. Sausage spices and casings, wood (chips or shavings) for smoking meats, salt for curing and all condiments must be of organic status. Packaging materials and handling and transportation methods should assure that the product is not contaminated. Some slight latitude does exist for the processing of organic animal products just as with organic plant products. Exemptions from added ingredients or processing aids being organic may be granted if in fact, such are not available either regionally or nationally to meet these needs.

However, such exemptions can not exceed 5% of the total weight of the finished product. Thus, in effect, the final product must be 95% or more, organic content, namely the animal food base and any added ingredients. Secondly, a list of approved synthetics, deemed to be essential to the process will be developed, thus permitting such use once confirmed. By the same token, some natural ingredients may be prohibited if known or proven toxic.

Standards are being developed in the European countries as well as in the U.S.A., Argentina and Australia and a few other countries to provide more uniform specifications for organic livestock and organic animal products. An impartial certification system is essential to the integrity and the success of such a program both nationally and inter-nationally. All of these parameters are being addressed to develop uniform standards that will permit international trade to be conducted with organic foods that are acceptable by all countries.

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