

# ORGANIC MILK PRODUCTION – MYTHS AND REALITIES IN THE INDIAN CONTEXT

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Of late it has been realized by man that all efforts taken by him to maximize food production without taking into account the environment and the health of livestock leads to serious depletion of resources in any production system. The consequences of harmful pollutants and other hazardous practices in conventional and intensive food production systems have lead to rising costs by way of health care and depleted quality of life. Perhaps it is this conclusion that has prompted man to examine an alternative farming systems for possible solutions to his problems. The fundamental principle of organic food is to create integrated, humane, environmentally and economically sustainable production systems.

In India too attempts have been made of late by a small section of farmers (mostly affluent) and voluntary organizations to cultivate organic food and produce organic milk. Organic tea, pepper and cardamom have been produced in limited quantities in our State and have been certified as organic by approved agencies mostly for export purpose. Likewise a few farms in Malabar region have carried out organic milk production. Nevertheless a critical review of the functioning of the so called organic food and milk production systems would reveal that in many cases only superficial changes have been brought about in the production systems and that most of them are unaware of the detailed certification and organic inspection that have been laid out for organic milk production in advanced dairy countries. In many cases the *raison d'être* for producing and marketing organic milk seems to be the higher market prices that such products fetch from the discerning customer. This paper aims to explore the possibilities of promoting organic milk production in our country amidst the various shortcomings in the form of infrastructure, environmental, administrative and other shortcomings that exist.

## **What does organic mean?**

The word 'organic' is defined by law. Organic system recognizes that our health is directly connected to the health of the food that we eat and ultimately to the health of the soil. Organic farms aim to produce good food from a balanced soil. There are strict regulations known as standards that define what they can and cant do. They place strong emphasis on protecting the environment. They use crop rotations to make the soil more fertile. Any product labeled as organic must meet a strict set of standards.

## **What differentiates organic milk production from conventional milk production?**

Broadly organic milk production is unique by its adherence to a host of qualifying standards in feeding, management, diseases prevention and environmental standards. Organic milk production is regulated by approved bodies in developed countries that undertake certification of organic milk and have standards that provide a comprehensive guide to the organic food that would qualify for the organic symbol. Milk from conventional dairy cows can be converted to organic milk production and sold as organic only after the cows have undergone a specific period under full organic management within an organic unit.

## **QUALIFYING STANDARDS FOR ORGANIC MILK**

The qualifying standards for milk produced in a farm to be considered organic is as follows.

### **1. ANIMAL FEED AND FODDER**

Under organic management livestock are to be fed to ensure quality production growth rather than maximum production while meeting the requirements of the livestock at various stages of development. Feeding system is based on maximum usage of pasture and at least 60% of dry matter in daily rations

must consist of roughage fresh fodder, dried fodder or silage. The animals are to be fed with 100% organic feedstuffs that are reproduced in accordance with stipulations laid down by certifying agencies. A minimum of 60 % of ruminants feed should be derived from the holding where the animals are kept.

All farmland including pastures and croplands must be managed organically for a minimum 36 month period before it can qualify for organic certification. Foodstuffs containing animal by products, urea and manure are totally prohibited. Antibiotics, coccidiostats, medicinal substances, growth proteins and other substances intended to stimulate growth and production must not be used in cattle feed. All organically raised livestock must have access to the outdoors including to pastures. The pastures are not to be treated with herbicides, insecticides or fertilizers.

Wherein feed and fodder production is from own sources the total amount of manure applied on the holding may not exceed 170 Kg of nitrogen per year per hectare of agricultural land used. Where necessary the total stocking density should be reduced to avoid exceeding the above limit.

Storage facility for livestock manure must be of a capacity to preclude the pollution of water by direct discharge or by runoff and infiltration of the soil.

## **2. ANIMAL HUSBANDRY AND MANAGEMENT**

The basic ideology in organic herd health management is to provide an environment that supports, fosters and engenders directly animals such that treatment are rarely needed. Development and management of organic livestock systems requires special care in nurturing positive health and vitality ensuring the proper control of disease and the encouragement of positive animal welfare. Positive welfare means the satisfaction of the animal needs including behavioral needs and not merely the avoidance of cruelty. Choice of breed or strain should favour cattle that are well adapted to the local conditions with preference for indigenous species. Vitality and disease resistance are of prime importance.

Organic dairy productions have an extensive change from conventional dairy production in several animal husbandry and management practices. Except for life threatening and emergency cases antibiotics, hormones and other conventional pharmaceuticals are totally avoided. Preventive management practices including the use of vaccines can be used to keep animals healthy. Only plant and herbal oil based fly sprays are permissible. Treatment options include homeopathy, herbal /plant based products and immune support

systems such as colostrums and other whey products. A minimum of one year organic health care is required before a herd can be certified as organic.

Animals subjected to antibiotics are removed or culled altogether. An animal treated with a prohibited medication is not to be sold as organic.

Livestock standards also apply to animals used for meat, milk, eggs and other animal's products. Livestock bought on farms from non-organic holdings for breeding purposes cannot be sold as organic either for slaughter or for breeding. Animals for slaughter are to be raised under organic management from the last third of gestation.

Housing condition for livestock must meet the livestock's biological and ethological needs. Herbivores must have access to pasturage wherever conditions allow. Live stock housing must have smooth but not slippery floors with 50 % of the total floor area solid and not of rolled or have gridded condition.

Only fit animals are to be transported under the supervision of experienced staff. Use of any allopathic tranquilizer prior to or during transport is prohibited.

## **3. DISEASE PREVENTION AND VETERINARY TREATMENT.**

Disease prevention organic livestock production is based upon the following principles.

- i) Selection of appropriate breeds suited to climate and other environmental conditions
- ii) Application of animal husbandry practices appropriate to the requirements of each species encouraging strong resistance to disease and prevention of infections.
- iii) Use of high quality fodder together with regular exercise and access to pasturage having the effect of encouraging the natural immunological response of the animals
- iv) Having an appropriate density of livestock thus avoiding overstocking any resulting animal health problems.

Animal health problems are to be mainly controlled by prevention. Except for life threatening and emergency cases antibiotics, hormones and other conventional pharmaceuticals are totally avoided. Management of mastitis without use of antibiotics requires animals having strong and healthy immune system and good sanitation. Organic farmers need to substitute tight management in the place of antibiotics. This requires routine monitoring of all

cows for somatic cell counts and culling of individual cows to identify both problem cows and problem organisms.

All treatments with allopathic medicines are to be recorded including diagnostic duration and statutory withdrawal period is to be observed. If no statutory withdrawal period is given a 48-hour withdrawal must be observed. If an animal is treated with more than two courses of allopathic treatment during a year it loses its organic status and must be separated and slaughtered as non-organic.

#### **4. RECORD KEEPING**

Detailed and accurate record keeping is an integral part of the certification and inspection process in organic milk production. Details on almost everything that comes into the farm, leaves the farm or is done on the farm is to be retained. Records are to be kept on all feeds purchased, harvested and fed, crops planted, harvested, stored, fed and sold, animals sold, born, treated, deceased, bred and fed, manure spread, milk quality aspects, water tests etc. Comprehensive records must be kept on all livestock movement, feed stuffs, sick animals and mortalities and all treatments of sick or otherwise animals must be kept recording both allopathic and alternative treatments. These records must satisfy the requirements of food safety indicators including records and traceability, crop management, livestock management, product contamination and residue tolerances.

#### **LIMITATIONS OF ORGANIC MILK PRODUCTION IN THE INDIAN CONTEXT**

The general level of awareness regarding organic food production, organic livestock production and organic principles among the vast majority of dairy farmers in our country is abysmal. Most farmers tend to put up with the bit of farming on the little strip of land and livestock that they have inherited through the generations. The Indian farmer have not shown much paragons of organic value and we continue to be children of modern agricultural and live stock production practices employing the latest green house methods and using chemical fertilizers and pesticides.

The vast majority of farmlands in our country are cultivated extensively using chemical fertilizers, rodenticides, herbicides, fungicides and other chemical applications at levels several times over those recommended. These negate the very concept of organic milk production as invariably these chemical residues contaminate large areas in the

surrounding by rainwater overflow and leeching through the soil.

An organic price index that exists in many developed countries is absent in our country. Organic farm practice and livestock production without usage of chemical fertilizers, antibiotics, disinfectants etc invariably result in a lower output of grain and fodder per unit area of arable land and reduced livestock productivity which essentially has to be compensated through an increase in the sale of organic milk. Despite the nation topping world milk production quantity constraints are still very much existent and per capita milk consumption continues to be well below recommended ICMR standards. As such there exists no definite estimate of the growth of organic dairy market in our country.

Another major hindrance in popularizing organic milk production in the country is the indiscriminate, rampant and unrestricted use of antibiotics, growth promoters, fly repellants and other allopathic drugs in treatment of diseases. Routine vaccinations against various epidemic diseases are regularly being carried out among livestock. Very often vets rule the roost and are the first level of consultants for even organized dairy farms. Withdrawal periods for livestock treated on antibiotics are seldom followed and antibiotic residues in milk are a common feature.

Another constraint to organic milk production is the absence of a system of maintaining records pertaining to live stock production in our country. Herd book registrations introduced in a few states still do not cover the entire livestock population. For a livestock farm to be certified as organic requires a minimum of three years of organic level management that is to be documented by an elaborate system of records, registers and other materials. The number of accredited certifying agencies for organic milk production are also quite few. Even now farms rely upon foreign agencies for organic certification and the cost is quite prohibitive.

#### **FUTURE PERSPECTIVES IN ORGANIC MILK PRODUCTION.**

Consumer interest in organic milk production has really taken off in recent years. In countries wherein dairying contribute significantly to the GDP, supermarkets and department stores are racing to set up their own organic produce corners and direct home delivery of organic foods is a rapidly growing business. This preference has risen substantially out of their humane concern for safe food, safe

environment free of pollution and toxic residues, concern for animal welfare and better taste and the same preferences could replicate in our country too as the indices for human development upsurge. Organic milk have higher levels of omega 3 fatty acids, Vitamin E and antioxidants which help beat infections and lowers heart ailments and ageing. In our country the elite health conscious group have always shown a preference for traditional organic products.

Organic milk production is a value addition business. On account of the absence of an organic price index farmers practicing organic milk generally go along with whatever the market returns back and consequently there is hardly any profit in the business. Scientific cost accounting is to be resorted to get appropriate prices for their products. Extensive data generated through computers provides a traceability system for the organic produce and allows to instantly calculate the unit production cost for each farm thereby allowing to set appropriate sale prices.

There exists a need to bring about more public awareness on the advantages that organic milk and milk products offer compared to conventional produce. A major reason discouraging consumers from trying organic milk and milk products is attributed to the relatively higher cost of organic produce. Once more and more consumers try organic products and realize how better it tastes and adds to their health prices could come down.

Organic food is one based on values. Government endorsed certificates for organic milk and milk products will enhance awareness and credibility among general

public assuring that the product is genuinely organic thereby attracting new prospective buyers for the product. In developed nations companies that mislabel their products are subject to heavy fines for violation and their business could be shut down for a short period and even prosecuted for criminal activities.

The concept of organic milk production is to be popularized and knowledge further disseminated among the farmers of our country. Professionals among veterinarians, dairymen, agriculture and management specialists are to be identified to work within the confines of the organic standards and help in the transition of farms into organic.

Farmers planning on transition of their operations into organic production should initiate management of land, housing, husbandry and health condition of the animals to be in compliance with the certification standards ahead of the actual certification process. Websites on organic milk production and farming are to be popularized with an aim to show the cultivation history of organic milk and for customers to see exactly what they are eating and where it comes from.

In our country there is problem of an aging rural population with insufficient young farmers to take over from the older generation and thereby valuable agricultural land has fallen into ruin through lack of cultivation. If only a part of these arable lands could be reclaimed for organic feed, fodder and livestock production the prospects of organic milk production are quite bright.



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