



Animal Rearing Practices under Natural Farming

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INTRODUCTION

Natural Farming is kind of a holistic and environmentally sustainable approach to agriculture, it leans on ecological processes, biodiversity, and those natural nutrient cycles rather than synthetic fertilizers, and chemicals. The whole idea is to work on soil health, strengthen plant–microbe connections, and keep resources circulating so the farm stays productive and sustainable for a long time. Inside this system animal rearing shows up as something crucial and really not optional. Livestock are not just sources for milk, meat, and draught power, they are also seen as living engines for soil fertility. Inputs coming from animals, like dung, urine, milk, and other by- products are used for making natural fertilizers and bio stimulants. So, animal husbandry and crop production are tied together, kind of a closed-loop arrangement, zero waste style, which helps keep ecological balance in place and also supports the farms long-term sustainability.

2. Importance of Animal Rearing in Natural Farming

Animal rearing is considered the backbone of natural farming systems due to its multiple ecological, agronomic, and economic functions. Livestock play an essential role in maintaining farm sustainability by continuously supplying valuable organic resources and supporting nutrient cycling within the ecosystem.

Importance of Animal Rearing in Natural Farming

Animal rearing is seen as the kind of backbone of natural farming because it does so many things at once, ecological agronomic, and even economical, in a natural way. Livestock help keep the farm sustainable, they keep adding useful organic stuff, and they help in nutrient cycling, inside the whole ecosystem.



Source: <https://meatthefacts.eu/>

2.1 Source of Natural Inputs

Livestock give a broad set of natural inputs needed for organic and regenerative methods. For example, cow dung is used quite a lot for composting and soil enrichment and that gradually strengthens soil fertility along with its structure. Cow urine works like a strong ingredient for bio-pesticides, and also for natural growth promoters, it supports pest control and disease management without synthetic chemicals. Also milk and its by-products are used in key bio-preparations such as Panchagavya, which promotes plant growth and raises productivity a bit more steadily.

2.2 Soil Fertility Enhancement

Inputs coming from animals improve soil quality, mainly by increasing soil organic carbon and boosting microbial activity. They make nutrients easier for plants to access, improve soil aggregation, and help soil hold water better. Because of this, over time, the

land becomes more fertile, more weather-steadfast, and overall more productive.

2.3 Economic Sustainability

Animal rearing helps reduce how much we rely on expensive chemical fertilizers and pesticides, so the inputs can be a bit more manageable, year after year. At the same time it brings extra money coming in from dairy products, manure and other livestock based outputs. In this way, overall production expenses come down a lot, and farm profitability gets better, in practice it can feel steadier.

2.4 Ecological Balance

Livestock systems support nutrient recycling right inside the farm, and they can also lessen environmental pollution. Beyond that, they play a role in conserving biodiversity too, not just in theory. When these pieces are connected like that, the whole method supports ecological balance and it helps agriculture ecosystems keep going long term.



Source: <https://farm.ws/>

3. Principles of Animal Rearing in Natural Farming

Natural farming-based animal husbandry operates on a set of ecological, ethical, and resource-efficient principles that ensure sustainability and long-term farm productivity. These principles emphasize harmony between animals, crops, and the environment.

3.1 Indigenous Livestock Preference

A central idea is the preference for indigenous or local livestock breeds. These animals tend to be, naturally matched to the regional climate conditions, so they handle heat and humidity better and they are more resistant to local diseases. In general, they need comparatively less outside feed, plus less day to day care. Indigenous breeds also generate high-quality dung and urine, which can work very well for preparing bio-inputs like compost, Jeevamrit, and Panchagavya. In that way, they become quite valuable inside natural farming systems.

3.2 Chemical-Free Management

In natural farming, animals are raised without routine use of antibiotics, hormonal growth promoters, or synthetic feed additives. When it

is truly required, only emergency veterinary care is allowed. The emphasis is preventive health care through clean housing, balanced natural feed, and herbal or traditional veterinary practices. This helps keep livestock products chemical-free and stable in quality.

3.3 Integration with Cropping Systems

Animal rearing is tightly connected with crop production in a circular style system. Crop leftovers, like straw and husk are used as feed for the animals, while animal waste is sent back to the fields as organic fertilizer. This approach supports a closed loop nutrient cycle; it improves soil fertility and also lowers dependence on outside inputs.

3.4 Low-Cost and Self-Sustaining System

Natural farming supports a pretty low-cost, self-sustaining system, where a lot of what's needed is produced right on the farm. By using farm resources in a more careful way, farmers rely less on outside markets, and that helps maintain economic steadiness plus overall resilience especially for small and marginal farmers.



Source: <https://www.pashudhanpraharee.com/>

4. Types of Animals in Natural Farming Systems

Natural farming systems integrate a variety of livestock species to ensure ecological balance, nutrient recycling, and diversified farm income. Each animal plays a specific role in maintaining the sustainability and productivity of the farming ecosystem.

4.1 Cattle (Cows and Buffaloes)

Cattle are like the most important and really central animals in natural farming systems, they are often seen as the backbone of farm based nutrient cycles. Their main roles revolve around providing cow dung and urine, which then become the key raw ingredients for making bio-inputs like compost, Jeevamrit and other organic formulations. Milk taken from cattle is also used in making Panchagavya, a strong bio-stimulant that supports plant growth, and helps plant immunity in a practical way. Apart from that, cattle play a big part in soil fertility improvement, mainly because they encourage microbial activity and help enrich the ground with more organic matter.

4.2 Goats

Goats are quite adaptable and low maintenance animals, so they fit well with marginal farms and dryland farming setups. They need relatively less feed than big livestock and they can still do fine across many environmental conditions. Goats give several outputs such as milk, meat and manure. Their droppings work

as a natural soil healer, enriching soil fertility and supporting organic nutrient cycles. Also, because goats are browsers, they can manage shrubs and other unwanted vegetation inside agroecosystems, sort of keeping the fields under control without extra fuss.

4.3 Poultry (Chickens and Ducks)

Poultry farming is, well an important part of natural farming, mainly because it has a rapid production cycle and it doesn't take too much space. Chickens and ducks give eggs and meat, so they really support household nutrition and also help bring income. Beside that, poultry droppings are rich in nitrogen, which makes them a great organic fertilizer, and that's useful year after year. Poultry birds can also help to manage insect numbers around the farm ecosystem. This, in turn, supports natural pest control, without overly complicated methods.

4.4 Sheep

Sheep are a valuable kind of livestock in natural farming, especially in semi-arid and arid regions. They are strong grazers of natural vegetation and they support pasture ecosystems in a steady way. Sheep provide wool and meat, which become important economic goods for farmers. Their manure is also quite beneficial for grazing lands, because it improves soil fertility and adds organic matter content. So overall, sheep help with ecological balance too, while also improving farm productivity.

5. Role of Cattle-Based Inputs in Natural Farming

Cattle are central to natural farming systems because they provide essential raw materials for preparing various bio-inputs that support soil health, plant growth, and ecosystem sustainability. Cow dung, cow urine, milk, curd, and ghee are key components used in traditional and scientific natural farming practices.

5.1 Jeevamrit (Liquid Bio-Fertilizer)

Jeevamrit is that fermented liquid bio fertilizer made out of cow dung, cow urine, jaggery, pulse flour and soil gathered from farm bunds. all these things together basically create a nutrient rich medium for the growth and multiplication of beneficial microorganisms. When you apply Jeevamrit to the soil it tends to boost microbial activity in a strong way, helps in better nutrient cycling, and it makes essential nutrients more available to plants. It also supports improvement in soil structure and overall soil biological well being, so it becomes a key input in natural farming.

5.2 Ghan Jeevamrit (Solid Form)

Ghan Jeevamrit is the solid or powdered version of Jeevamrit. This one is used mostly during sowing time and related field preparation steps. Instead of acting too fast, it works like a slow release organic fertilizer that feeds crops gradually. Because of that, it improves soil fertility, refines soil texture, and raises the soil's water holding ability. Ghan Jeevamrit further supports long term soil health by increasing organic matter content and keeping microbial communities active in the soil ecosystem.

5.3 Panchagavya

Panchagavya is a traditional bio-stimulant which is prepared using five cattle derived ingredients: cow dung, cow urine, milk, curd and ghee. These ingredients are blended, left for fermentation, and then you get a growth promoting solution. Panchagavya boosts plant physiological processes, supports seed germination, and encourages vegetative growth. It also strengthens plant immunity, so crops can

deal with pests and diseases in a more natural manner. Also it helps in flowering and fruiting, which eventually leads to better overall yield improvements.

6. Animal Management Practices in Natural Farming

Animal management in natural farming focuses on maintaining livestock health and productivity through eco-friendly, low-cost, and preventive practices. Proper housing, balanced feeding, and natural healthcare are the three essential components of successful livestock management.

6.1 Housing Management

Good housing is, like basically essential to guarantee animal comfort, health, and productivity. Livestock shelters must be well ventilated so that fresh air keeps moving and humidity stays low, this helps avoid respiratory diseases. The floor should stay dry and neat, and bedding should be something suitable like straw or crop residues, so it feels comfortable and also soaks up extra moisture. A proper shelter also guards animals from harsh weather like severe heat, cold, and rain. Enough space is important too, so the animals can move around freely, rest, and feed without strain, it lowers stress and supports the general well-being.

6.2 Feeding Management

In natural farming, animals are fed mainly using natural, locally available items. Green fodders like berseem, maize and sorghum provide key nutrients and they also help in milk production. Dry fodders such as straw and hay give fiber that is needed for digestion to work properly. Tree leaves and agroforestry biomass, for example subabul and gliricidia, act as extra protein as well as mineral sources. Commercial feed concentrates are either used very little or completely skipped, so the whole feeding approach stays low cost and chemical free, if possible.

6.3 Health Management

In natural farming the whole idea is preventive health care, not the usual pattern of routine chemical treatments. People often use herbal preparations from neem, turmeric, tulsi, garlic

and aloe vera to handle small problems, and also to strengthen the body's defenses. Alongside this, traditional ethnoveterinary methods... which come from local indigenous knowledge, they matter a lot for animal well-being. Things like clean housing, balanced nutrition, and regular hygiene help lower the number of disease cases. And when it comes to antibiotics or synthetic drugs, these are taken only in emergency moments, like when the natural remedies just don't cover it properly.

7. Integration of Animal and Crop Systems

Natural farming is built on a circular bio-economy arrangement, where crops, livestock, trees, and microorganisms work in one connected loop, kind of self-sustaining and supportive to each other. When animals and crop areas are integrated, you get a productive setup that is very efficient; it reduces outside inputs but increases the use of resources already there on the farm. In other words the whole system stays connected, more resilient, and uses what is already available on-site.

7.1 Nutrient Recycling Cycle

The nutrient recycling cycle is the basic core idea behind integrated natural farming, kinda like a continuous loop. Crops produce residues straw, stover, and husks which are used as feed for livestock. The animals then change these materials into dung and urine, and after that they are processed into useful bio-inputs like Jeevamrit, Ghan Jeevamrit, compost, and Panchagavya. Later these preparations go back into the soil where they boost microbial activity, help nutrients become easier to access, and finally support better crop growth. All this keeps soil fertility steady, and also lowers the need for synthetic fertilizers.

7.2 Zero Waste Farming System

Natural farming also uses a zero waste method where every output, of one component, turns into an input for another. Crop residues, animal waste, and other farm biomass are fully recycled, so no helpful matter gets thrown away. This kind of system improves the efficiency of resource use, reduces production

expenses, and it cuts down environmental pollution in a noticeable way.

7.3 Agro-Ecological Synergy

Integrated systems build strong ecological links. Animals contribute to soil fertility by producing manure, while crops provide feed and bedding materials. In agroforestry, trees give shade, fodder, and leaf litter, and then microorganisms work on decomposing organic matter into nutrients that plants can actually use. Together, these small but connected actions increase biodiversity, strengthen ecosystem resilience, and help sustainable agricultural output keep going.

8. Environmental Benefits

Animal rearing within natural farming has a number of environmental benefits; it helps strengthen ecological processes while also cutting down on reliance on synthetic agricultural inputs. By handling efficient nutrient recycling and by tying animal activities with crop production, livestock can really add to the sustainability as well as the resilience of farming ecosystems, even when conditions get a bit rough.

8.1 Soil Health Improvement

Inputs coming from animals such as dung, urine, compost, and bio-preparations raise soil organic matter, and they also support the general fertility of the soil. These materials kind of encourage the growth and variety of good microorganisms, including bacteria, fungi, and actinomycetes, which are needed for nutrient mineralization and disease suppression. When microbial activity improves, the soil tends to form better aggregates, it gets more aeration and better water retention too, which makes the ground healthier and more productive, without the soil feeling "tired".

8.2 Climate Change Mitigation

Natural farming lowers the use of synthetic fertilizers, and the making plus application of those fertilizers is a big reason behind greenhouse gas emissions. Organic inputs from animals support soil carbon sequestration, mostly because they raise organic carbon and help stable humus formation. At the same time,

integrated livestock systems support sustainable land use and this also makes agricultural landscapes more resilient in the face of droughts floods and temperature extremes, you know those harsh swings that can happen fast.

8.3 Biodiversity Conservation

Rearing animals tends to promote diversified farming setups, where you see crops along with trees, pastures, and other beneficial organisms working together. These arrangements provide support for pollinators predators decomposers, and they also keep a broad community of soil microbes alive and active. Grazing by livestock, together with manure application, helps keep habitat diversity and supports ecological interactions, so biodiversity stays preserved and the overall ecosystem balance is maintained, not just for one season.

8.4 Pollution reduction

By swapping synthetic fertilizers and pesticides, natural farming makes way less chemical runoff end up in rivers, ponds, and groundwater. It also helps cut down soil contamination, and it keeps harmful residues from piling up in food and around the environment. Recycling animal waste into useful bio-inputs, that's also a key point it lowers the hassle of waste disposal and supports cleaner, healthier agricultural ecosystems in a sort of slow but steady way.

9. Economic advantages

Natural farming, especially when animal rearing is part of it, can bring real economic gains. The big idea is lower production costs, more than one stream of earnings and extra employment in rural areas too. When livestock are integrated with crop production, farmers often end up with a more self reliant and financially durable farming routine.

9.1 Reduced input costs

A major economic advantage is the drop in spending on chemical fertilizers and pesticides. Inputs that come from animals, like dung, urine, compost, Jeevamrit and Panchagavya are made from locally available materials, so farmers don't have to buy as much from outside. This kind of lower dependence on

external resources reduces total cultivation costs, and it can lift profitability, especially for small and marginal farmers.

9.2 Additional income sources

Livestock offer a range of products, and those products can feed farm income. Milk and dairy goods such as ghee, curd, and butter are both household staples and market items. Farmers can earn further money by selling organic manure, vermicompost, and other bio-inputs made from animal waste. Plus, value-added livestock products can push economic returns higher, and they usually strengthen financial stability as well.

9.3 Rural Employment Generation

In animal husbandry, there are year-round chances for work, in feeding, milking, basic healthcare, manure processing, and then marketing. It helps small and marginal farmers too, because it gives a steady cash flow and somehow reduces economic risk, even when prices fluctuate. Also, livestock-centered enterprises make the rural economy stronger, by encouraging small entrepreneurship and more sustainable living options inside farming communities.

10. Challenges in Animal Rearing under Natural Farming

Animal rearing under natural farming brings many ecological and economic benefits but actually, adopting it in practice has its own issues. These real constraints need to be handled through training, better planning, and solid institutional support so the system stays viable for a long time.

10.1 Management Constraints

Livestock management under natural farming needs a decent grasp of animal nutrition, housing, breeding, and proper health care. Farmers also have to understand herbal treatments, ethnoveterinary practices, and the preparation of cattle-based bio inputs, not just the usual methods. Moreover, the whole setup is labor intensive, because regular supervision is required for feeding, cleaning, manure collection, and the preparation of natural formulations. Limited access to skilled labor

can block smooth day to day operations, and then overall efficiency falls.

10.2 Early Transition Problems

Changing from usual livestock and crop arrangements toward natural farming may take some time, and honestly it can feel a bit disjointed. In the in-between stage, many farmers can end up uncertain about how productive the land will be, and also whether income will stay stable. It is not uncommon that people notice a short term dip in crop yield or livestock results while the system sort of settles in, and the soil's living processes start working better. That kind of adaptation phase can make farmers hold back from adopting, especially if there isn't enough coaching, or if the advice arrives too late.

10.3 Availability of Feed

For natural livestock setups, the animals rely a lot on fresh green fodder, leftover crop residues, and leaves from trees, sort of like a continuous pantry. But fodder supply can swing with the seasons, particularly when drought comes, or during winter months. When that happens, animal growth, milk output, and overall productivity can drop. So, fodder planning needs to be practical and done early, plus silage preparation should be organized, and fodder crops have to be woven into the overall rotation, to keep feed across the year.

10.4 Market Constraints

Selling natural and organic animal products can be hard, mainly because supply chains are not well arranged and many consumers are not fully informed. Also, certification steps may feel complicated and expensive, and sometimes farmers do not get the higher prices people expect. In order to get broader uptake of natural farming in animal husbandry, it becomes important to strengthen market infrastructure and to provide clearer certification assistance.

11. Future Prospects and Solutions

The future of animal rearing in natural farming looks really promising, especially as global agriculture is shifting toward sustainability, stronger climate resilience and lower input production systems. If we can give the right

support through education, technology, policy, and research, then livestock based natural farming could become a core part of sustainable rural development, not just a niche practice.

11.1 Capacity Building

Farmer education is essential, for natural livestock management to really work well. Training programs should center on indigenous breed handling, making bio-inputs, fodder cultivation, and ethnoveterinary practices. Extension services and on-farm demonstrations can make a big difference, because farmers get practical experience and confidence too. Agricultural universities and research organizations may have an important role; they can develop training materials, run field trials, and share scientific insights that are actually usable.

11.2 Technological Integration

New technologies can improve livestock management a lot in natural farming arrangements. Smart livestock monitoring devices, like wearable sensors and automated record keeping systems, can notice animal health changes, feeding patterns and production levels. Digital farm management tools, plus mobile apps, support farmers in planning feeding schedules, breeding timelines, and disease prevention steps. Also, AI based health monitoring systems can work like early alerts for disease, then guide decisions in time, before problems become serious.

11.3 Policy Support

Government support really matters to make adoption happen. Subsidies for indigenous livestock breeds, help with organic certification, and incentives for preparation plus marketing of bio-inputs can end up strengthening natural farming systems, even if the process feels slow at first. Also, when rural dairy cooperatives and farmer producer organizations are supported more strongly, it can boost marketing outcomes and help with value addition.

11.4 Research and Development

More research is still needed, for example to enhance indigenous breeds, and to create low cost bio-input technologies that are not only useful but also scientifically validated. At the same time, sustainable fodder production systems have to be established properly, so the whole chain stays stable. When universities, extension agencies, and farmers work together in collaborative research, the innovation and field level use improves faster.

CONCLUSION

Animal rearing is basically the backbone of Natural Farming systems. It supports nutrient cycling, soil fertility, ecological balance, and economic sustainability. When livestock are integrated with crops inside a circular, zero-waste arrangement, natural farming becomes a resilient agricultural pattern that supports farmers and the environment in a more steady way. The real success of natural farming depends a lot on strengthening indigenous animal breeds, upgrading livestock management practices, and building farmer awareness. With proper institutional backing, animal based natural farming can turn into a strong solution for sustainable agriculture, climate resilience, and rural development in the years ahead.

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