NATURAL FARMING:
STAR PROMOTER OF ZERO BUDGET NATURAL FARMING (ZBNF) JAGADEESH REDDY

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"Natural farming is a type of farming that is closest to nature." His strongest desire to save the soil from chemicals and pesticides made Mr. Jagadeesh Reddy a natural farmer. Jagadeesh Reddy is an Indian agriculturist who practices Zero Budget Natural Farming. Jagadeesh was born to Mr. Krishna Moorthy Reddy.& Mrs.Suguna in Chittoor district of Andhra Pradesh in India. He has an agricultural background and practices natural farming without using pesticides to cultivate. He conducted many workshops, seminars, webinars and conferences all over India and was awarded Futuristic farmer award, Innovative farmer award in 2019 by Central Government, and various other awards from Delhi and across India.

Farming was always his major interest since childhood. He joined the family farm with his father, a chemical farmer. Having learned of pesticides and artificial fertilizers, Jagadeesh started reading about natural farming methods, interventions and protocols of Subhash Palekar. Books have introduced him to the legendary farmer Mr. Subhash Palekar, Padma shri awardee in 2016. Jagadeesh once attended his workshop conducted in Tirupathi and practically understood natural farming techniques at his level of . He started applying ZBNF methods in his farm and this unique approach to farming involves manures and agroecology. His transformation from chemical to natural has attracted the attention of various social media platforms and his fellow farmers. IAS officers, Doctors, IT employees and people from various professions come to visit his natural farms to buy some quality naturally grown chemical free food. Now, many farmers around his village are practicing natural farming under his guidance and he stands as an inspiration to many farmers' co-operative groups.

Natural farming is an ecological farming approach with the avoidance of manufactured inputs and equipment. It is related to fertility farming and sustainable agriculture. Essentially, natural farming is to grow crops without fertilisers, pesticides or herbicides. Observing the conditions of the local ecosystem, and mimic nature rather than heavily relying on outside nutrients and artificial chemicals does the trick. When done properly, natural farming saves upto 90 percent of water, electricity and expenditure. It also avoids water pollution, prevents loss of biodiversity and halts soil erosion and all of this, without sacrificing the output of yield. Jagadeesh can demonstrate step-by-step on how to turn your farm into a completely natural, chemical-free farm that produces highly nutrional food. Understanding the healthier and beneficial alternatives to using chemical fertilizer and other invasive substances on crops is important. It can affect consumers health and cause illnesses as a result of digesting hazardous chemicals used in farming.

To our surprise, there are key differences between natural and organic farming. Natural and organic both are chemical or poison free farming methods. Both systems discourage farmers from using any chemical fertilizers, pesticides on plants and in all agricultural practices. Organic and natural farming methods promote nonchemical and homemade pest control methods. In organic farming, organic fertilizers and manures like compost, vermicompost, desi cow dung manure, etc. are used and added to farmlands from external sources. In natural farming, neither chemical nor organic fertilizers are added to the soil. In fact, no external fertilizers are added to soil or given to plants. In natural farming, decomposition of organic matter by microbes and earthworms is encouraged right on the soil surface itself, which gradually adds nutrition in the soil over the period. Organic farming still requires basic agro practices like plowing, mixing of manures, weeding, etc. to be performed. In natural farming there is no plowing, no fertilizers, and weed removal is manually done. Organic farming is still expensive due to the requirement of specific manures, and it has an ecological impact on surrounding environments; whereas, natural agriculture is an extremely low-cost farming method, completely based on local biodiversity. There are many working models of natural farming all over the world, the zero budget natural farming (ZBNF) is the most popular model in India.

The cost of cultivation in natural farming is considered to be very cheap comparatively. One desi (native) cow is sufficient to maintain land up-to thirty acres. Fertilizer they commonly use is jeevamrutam which provides all macro and micro nutrient requirements to the crop. Requirements to prepare this natural fertilizer are desi cow dung, desi cow urine, jaggary, green or black gram flour and forest soil. 200 litres liquid fertilizer is sufficient to serve one acre. It can be applied through irrigation, flooding, drip etc. Natural pesticide prepared and used namely Neemastram (prepared with neem extract, cow urine, cow dung and water).

Farmers following such practices need not spend more money for crop protection. According to stage of the crop these naturally prepared are applied to avoid occurrence of the pests and diseases on the crop. Other farmers are requested to visit such type of farms following natural farming methods and try this cow based natural farming. Farmers who got converted to natural method farming are only practising by their adaptive trials. Adaptability is a key component during the land conversion from

chemical to natural form. It may not always be possible for an agroecosystem to regain it's previous properties and function the way it was before. It is a slow process to be followed with patience and determination as initial yields will be marginally very low. Once the land regains it's properties, it will start giving good yield and continue to increase there on. Finally, sustainable agriculture is not a single, well-defined end goal. It is continuously evolving and is influenced by contemporary issues, perspectives, and values. For example, agriculture's ability to adapt to climate change was not considered a critical issue before, but is now receiving increasing attention. When the production of food and fiber degrades the natural resource base, the ability of future generations to produce good food and flourish decreases. A sustainable agriculture approach seeks to utilize natural resources in such a way that they can regenerate their productive capacity, and also minimize harmful impacts on ecosystems beyond a field's edge. One way that farmers try to reach these goals is by considering how to capitalize on existing natural processes. Hope this type of farming will spread in India to make marginal profits to small and poor farmers.

ZBNF has so far been adopted most prominently in the states of Karnataka and Andhra Pradesh. Evolution of ZBNF, beginning as a grassroots social movement and evolving into a major policy initiative in some states of India. Some of the first available findings on the impacts of ZBNF amongst early-adopters in Andhra Pradesh, focusing on crop yields, costs of cultivation, farmer income and observed impacts on farm ecosystems and within households. Efficiency is additive and incremental, though can involve step changes within existing agricultural regimes. Natural farming involves reducing waste and making the best use of easily available resources. Techniques of sustainable farming started coming to light and various training workshops are being organized in the state with the help of some experienced natural farmers like Mr. Subash Palekar and Mr. Jagadeesh. Farmers transitioning to ZBNF are thus embedded within a supportive network of peers, practitioners and formally trained agronomists, together forming a dense learning ecosystem. Farmers are encouraged to experiment with ZBNF, progressively deepening their practice. Naturally grown crops health and climate resilience to shocks are proving to be the best compared to chemically grown crops.

Naturally grown foods are in increasing demand because of the hazardous highly contaminated food being sold in the markets. Food contamination occurs if the food has come into contact with harmful chemicals. Exposures to such contaminated food at large creates adverse health effects. Once a person is exposed to a chemical, it may enter the blood stream, and eventually reach the liver. The liver attempts to detoxify harmful chemicals in the body by converting them to less toxic ones or ones that could be used by the body. The body naturally attempts to eliminate substances that are harmful. The kidneys filter substances out of the blood and excrete them in urine. Also, chemicals are removed from the body in feces, sweat and exhalation. However, the body may not be able to remove all the chemicals. The amount, type, and length of time the human body gets exposed to harmful substances associated with food will determine adverse health effects. Substances that are added to food to maintain or improve the safety, freshness, taste, texture, or appearance of food are known as food additives. Many different food additives have been developed over time to meet the needs of food production, as making food on a large scale is very different from making them on a small scale.

According to the World Health Organization (WHO), the two objectives in relation to pesticides are to ban pesticides that are most toxic to humans, as well as the pesticides that remain for the longest time in the environment. WHO intends to protect public health by setting maximum limits for pesticide residues in food and water. The most at risk population are people who are directly exposed to pesticides. This includes agricultural workers who apply pesticides, and other people in the immediate area during and right after pesticides are spread. Consumers can further limit their intake of pesticide residues by peeling or washing fruit and vegetables, which also reduces other foodborne hazards, such as harmful bacteria. In children, accidental exposures to high levels of pesticides are associated with childhood cancers, attention deficit hyperactivity disorder (ADHD).

Eating locally grown foods might be considered a safer option, but it depends on the practices of the individual farm. Hence, it is highly recommended for everyone to have a genuine farmer who can suggest and grow good food for you and your family. Eating chemical free or poison less food automatically develops immunity power which can combat any kind of viruses or diseases. Even chronic diseases like diabetes, arthritis, etc can be kept at bay with the consumption of naturally grown foods. Having a specific food producer contact benefits mutually to both you and the farmer. What Jagadeesh always says is "Every family must have a family farmer like a family doctor" which is a well said factual statement. Path to good health and well-being is not so easy. What a noble service by heroes like Jagadeesh who are striving hard to create health awareness among public. It is evident that knowing what you eat has become crucial to lead a healthy lifestyle.

Messages from Mr. Jagadeesh Reddy to readers, farmers and scientists

"Farmers should take step towards poison less farming because this is the only way to sustain a better life and they should also make earth a habitable place for the future generation. Today farmer should understand the current need and look for more meaningful and sustainable ways of pursuing agriculture instead of fulfilling their monetary needs."

"Today cancer like Disease is spreading among the people is because of chemicals being used by the farmers. I'm not saying that farmers shouldn't use fertilizer and pesticide, but they should reduce its use and switch to organic farming. In this way they can stop the soil and water pollution and can also prevent cancer like deadly diseases.

"Every farmer must do natural farming, if not possible to a larger extent then at least try it in a smaller area for home purpose. In this way, they can create a difference in their own lives and make it better."