

Top farm scientists reject zero budget natural farming: unproven, govt should not invest

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INDIA'S PREMIER academic body of agricultural scientists has hit out at Zero Budget Natural Farming (ZBNF), terming it as an "unproven" technology bringing

no incremental value gain to either farmers or consumers.

"The government should not needlessly invest capital and human resources towards promoting ZBNF. We have given our recommendations in writing to the Prime Minister and it reflects the view held by the scientific community," said Panjab Singh, president, National Academy of Agricultural Sciences (NAAS).

This position comes after Finance Minister Nirmala Sitharaman's Union Budget speech in July spoke of the need to "go back to basics" and "replicate this innovative model (that) can help in doubling our farmers' income". On Monday, Prime Minister Narendra Modi, while addressing the 14th Conference of Parties to the UN Convention to Combat Desertification, said

that "we are focusing on ZBNF".

NAAS, the New Delhi-based farm scientists' think tank, which has over 650 fellows and 15 regional chapters across India, had organised a day-long "brainstorming session" on ZBNF on August 21. It was attended, among others, by the Director-General of the Indian Council of Agricultural Research (ICAR)

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Farm scientists

Trilochan Mohapatra and NITI Aayog member Ramesh Chand.

"In all, there were about 75 experts that included scientists, policymakers, progressive farmers, NGOs and fertiliser, seed and crop protection chemical industry representatives. We reviewed the protocols and claims of ZBNF and concluded that there is no verifiable data or authenticated results from any experiment for it to be considered a feasible technological option. We had invited Subhash Palekar (the man behind ZBNF) as well, but he did not come," claimed Singh, who is also a former ICAR Director-General.

ZBNF's basic concept is that over 98 per cent of the nutrients required by crops for photosynthesis — carbon dioxide, nitrogen, water and solar energy — are already supplied "free" from the air, rains and sun. Only the remaining 1.5-2 per cent nutrients need to be taken from the soil and converted from "non-available" to "available" form (for intake by the roots) through the action of micro organisms.

To enable the micro organisms do their jobs, farmers must apply 'Jiwamrita' (microbial cul-

ture) and 'Bijamrita' (seed treatment solution), besides 'Mulching' (covering plants with a layer of dried straw or fallen leaves) and 'Waaphasa' (giving water outside the plant's canopy) to maintain the right soil temperature-moisture-air balance.

For insect and pest management, ZBNF recommends use of 'Agniastra', 'Brahmastra' and 'Neemastra', which, like 'Jiwamrita' and 'Bijamrita', are concoctions based mainly on urine and dung from desi cows. Since these also do not have to be purchased, it makes farming practically "zero-budget".

Critics, however, note that plant growth and crop yields require nitrogen, which is also a major component of amino acids that are the building blocks of proteins. "78 per cent of air is nitrogen, but it is not freely available to plants. Being non-reactive, atmospheric nitrogen has to be fixed into a plant-usable form such as ammonia or urea," said a top ICAR scientist, who didn't wish to be identified.

"He (Palekar) is further saying that ZBNF is effective only if dung and urine from black-coloured Kapila cows is used and farmers sow traditional varieties/ landraces. It means that all the high-yielding varieties and hybrids developed by us, which have trebled India's rice production to 116 million tonnes (mt) and increased it more than eight times to 102 mt for wheat in the last 50 years, are useless," said the scientist.

But according to Palekar, ZBNF is "seed-agnostic" and can be used for desi, hybrid or even genetically modified crops. "NAAS has no expertise to validate my method of farming. They have neither spoken to me

nor the farmers who are practising it. The academy should also have taken into consideration my schedule before calling me. Farmers organise workshops that I cannot cancel just to attend this (NAAS) meeting," he said.

The ICAR, meanwhile, has appointed a committee under Praveen Rao Velchala, vice chancellor of the Professor Jayashankar Telangana State Agricultural University, to study ZBNF's viability.