

Nanofertilizers Boost Grain Yields

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Nanofertilizers of nitrogen and zinc coupled with organic farming practices give a higher crop yield than conventional farming methods and chemical fertilizers, researchers have shown.

In field trials, the nanofertilizers plus organic farming contributed to higher yields of wheat, sesame, pearl millet and mustard.

Chemical fertilizers such as urea generate greenhouse gases that contribute to global warming. Urea also helps to form nitrates that leach through soil and impair the quality of drinking water.

In search of a sustainable alternative, scientists at the Indian Farmers Fertilisers Cooperative Limited (IFFCO)-Nano Biotechnology Research Center in Gandhinagar ran field trials at two locations in Haryana, in collaboration with Krishi Vigyan Kendra in Rampura. They applied a combination of nanofertilizers, biofertilizers and organic manure to wheat, sesame, pearl millet and mustard plants.

The researchers, led by Ramesh Raliya, found that their combination of fertilizers increased yields of wheat by 5.35%, sesame by 24.24%, pearl millet by 4.2% and mustard by 8.4%. The crops turned from pale yellow to green and produced more side shoots.

The nanofertilizers kept all the crops greener for a longer period, lengthening their maturity so that they ripened at the correct time. The nanofertilizer mix also promoted proper growth and high-quality grains.

The researchers say nanotechnology along with organic farming practices can help to

minimise the need for conventional chemical fertilizers while improving crop production.

Read the [original article](#) on Nature.