Science Societies

Vermicompost and nitrogen increase black cumin yields

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Left: Flower and capsule of the black cumin plant. Photo by Fikadu-Lebeta Wako. Right: First author Fikadu-Lebeta Wako collecting a soil sample from a black cumin field in Ethiopia. Photo by Lulu Kitata Guteta.

Black cumin (*Nigella sativa* L.) is an annual herbaceous plant grown for its pungent seeds. It is cultivated in many countries, including Ethiopia where a tropical environment is suitable for its growth. The seeds can be used to spice up dishes and are reported to have **medicinal benefits**.

Despite black cumin's importance, not much has been done to improve its production and productivity. In addition, nutrient management is the key to creating high-yielding black cumin fields. Using organic manures instead of synthetic fertilizer can decrease production cost. Among organic manures, **vermicompost** is being established to create a more sustainable agriculture in Ethiopia. Using worms to mix and process organic waste into compost, vermiculture results in compost faster than traditional methods.

In a recent *Agricultural & Environmental Letters* study, researchers in Ethiopia report on using vermicompost and nitrogen to increase black cumin seed yields. The results show combined fertilizer management increases growth, yield, and yield components. Vermicompost plays a vital role in improving soil microbial activities and nutrient availability, leading to active nutrient absorbance by plants and hastening growth and development of crops with supplied nitrogen.

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Wako, F.-L., Aga, M.-C., & Negeri, G.-T. (2022). Response of black cumin to vermicompost and nitrogen fertilizer. *Agricultural & Environmental Letters*, 7, e20066. **https://doi.org/10.1002/ael2.20066**

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