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FOOD ALLERGENIC RESIDUES IN COMPOSTS AND THEIR POTENTIAL CONTAMINATION IN LOW-GROWING LEAFY GREENS AND ROOT CROPS

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An estimated 9 million adults (4%) and 6 million children (8%) have food allergies in the US. The “Big 8” (peanut, milk, egg, wheat, tree-nuts, soy, fish and shellfish) account for 90% of all food allergies. While most of the issues related to food allergies have involved processed foods, we contend that pre-harvesting methods and processes such as soil amendments, specifically compost prepared with Big 8 feedstocks, could an important source of allergens during production of low-growing leafy fresh-produce and root vegetables. A small quantity of allergenic residues could cause life-threatening incidents. Inefficient and improper cleaning of these low-growing leafy fresh-produce and root vegetables could leave residual allergens in the food chain. Although current practices of compost processing in the US and Europe raises the temperature of compost close to 65 - 75°C, this temperature may not be high enough to denature or modify certain allergenic proteins. In this review, I will present effects of various compost techniques and processing conditions on the allergenic residues, and their potential contamination in low-growing leafy greens and root crops.

Keywords: Food allergy, compost, low-growing leafy greens, root crops

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