Battery components recycled into fertilizer

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Lithium Australia's Envirostream Australia has announced that they have been extracting manganese and zinc from used batteries to use as a fertilizer supplement. In their press release, the company reported that they have already used the supplement on potted wheat plants in their lab with positive results.

Lithium Australia NL, is an Australian company focused on supplying sustainable and ethical materials to battery companies—they seek to build what they describe as a circular battery economy. In their press release, the company's recycling division, called Envirostream Australia, claims that 6,000 tonnes of alkaline batteries are sold in Australia each year (approximately 158 million batteries) and that approximately 97 percent of those batteries wind up in landfills after their useful life ends. The company is hoping that efforts such as theirs using the batteries as a fertilizer source will reduce the carbon footprint of the battery industry.

The batteries used in this new effort are mostly the small type used in remote controls and small toys—the company has developed a way to release the manganese and zinc they contain—these are the main chemical components in alkaline batteries. The company has already carried out testing of the supplement in its labs and has announced plans to expand testing to include farms in western Australia, in its Great Southern District, where the country grows most of its wheat. The supplement will be used to bolster fertilizer used on wheat crops in soils that are known to be deficient in zinc and manganese. Currently, zinc and manganese for fertilizer supplements are obtained from mines in parts of Western Australia and Queensland.

Batteries in landfills are a serious fire hazard, and leak liquids into the soil; the company notes that dealing with alkaline batteries has become a major disposal and ecological problem all around the globe. Thus, repurposing them could provide a positive way to use them. They note that after initially attempting to simply recycle such batteries and meeting with limited success, they decided to try another approach—using the materials they contain for other purposes.

More information: lithium-au.com/wp-content/uplo … -crop-fertiliser.pdf