OCCURRENCE OF KOCHIA AND OTHER WEED SEEDS IN SUGARBEET LIME PILES. Terry Schulz, Karen Renner, Undergraduate Student and Professor, Department of Crop and Soil Sciences, Michigan State University, East Lansing, MI 48824, and Jim Stewart, Research Manager, Michigan Sugar Company, Caro, MI 48724.

Waste lime is a byproduct of the sugar purification process at sugarbeet processing plants. This byproduct lime is often stockpiled near sugarbeet piling grounds and used by area farmers to increase the alkalinity of their soils. These large lime piles become infested with kochia (*Kochia scoparia*) and other goosefoot species. Kochia is well adapted to such high pH soil environments, thriving on these lime stocks and in some instances, completely covering them with vegetation. These weeds produce large amounts of seed which re-infest the lime stockpiles. Use of this waste lime as a soil amendment could result in weed seed being spread on farmer's fields. Therefore, we determined if kochia and other weed seeds were present in lime samples taken from stockpile sites at different processing facilities. Two lime samples were taken at each site. Sample depths ranged from the surface to 20 cm. Ten sub-samples of 100 cc of lime were taken from each of the samples from each processing site. Lime sub-samples were added to 2 L of water, and measured amounts of Calgon and Epsom salts were used to break up lime aggregation and add buoyancy to the suspension. The contents were shaken in a 4 L graduated cylinder for 2 min, and the suspension was then allowed to settle until most of the seeds and organic matter floated to the top. The suspension was then poured through a fine mesh screen to filter out the seeds and organic matter. More water was added to the lime remaining at the bottom of the cylinder, and the filtering step was repeated. Weed seeds were then counted and identified with the aid of a microscope. Lime samples were incorporated into greenhouse potting mix and emerged weed species identified. Kochia seed was found in most of the lime samples at very low levels. Samples from the Caro site had elevated kochia levels, as did the sample taken from a kochia infested stock pile area at the Bay City site. Goosefoot (*Chenopodiaceae*) seed was the dominant seed recovered from all lime samples. Weed species included common lambsquarters (*Chenopodium album*), oak-leaved goosefoot (*Chenopodium glaucum*), and maple-leaved goosefoot (*Chenopodium hybridum*). Samples from aged lime at the Sebewaing and Croswell contained the most weed seed, showing the persistence of the seed of these weed species. Therefore applying lime to farmer's fields will spread weed seed. Kochia seed numbers were very low, implying non-persistence of kochia seed. Seed of *Chenopodiaceae* species in the field could increase by 30 - 850 seeds/m^2 if 4.5 metric tons/ha of beet lime was applied.

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