Background
Applying waste as an agricultural amendment can provide:
- A local source of nutrients, for plant growth, and carbon, to build soil organic matter
- Productive alternatives to landfills or incineration

However:
- Properties of waste amendments are less consistent than manufactured fertilizers
- Concerns about contributions of excess heavy metals or salinity
- Some wastes remain unstudied such as dehydrated food waste and gelatin waste

Waste Amendments
Wastes were obtained from sources in RI, NY, MA, and NH in 2013 and 2014 and tested to determine their suitability for use as agricultural amendments:

- PF = Paper fiber sludge/chicken manure blend (7:1)
- BS = Biosolids/yard waste co-compost
- MS = Multi-source compost
- YW = Yard waste compost
- FW = Dehydrated restaurant food waste
- GW = Gelatin manufacturing waste (2013 only)

Salinity
Amendment electrical conductivity was tested, as a measure of salinity, using a 1:6 waste to water ratio.

Takeaway: Waste electrical conductivity was low and fairly consistent year to year.

Heavy Metals
• Cd, Hg and Ni were below detection in all wastes
• Mo, Pb, Se, As, Zn, Cu and Cr were below EPA’s limits for Exceptional Quality Biosolids1, except As levels in 2014 YW

Takeaway: Short-term application (<25 years) of these wastes is unlikely to contribute problematic levels of heavy metals to the soil.

Conclusions
• Regular testing is important because of year-to-year variability, even from the same sources.
• These wastes did not contain problematic levels of heavy metals or salinity.
• Although nutrient contents were low to moderate, C:N ratios were generally favorable for providing plants with N.
• Some N:P ratios may lead to excess P application if applied to meet crop N needs.
• Unique properties, like seashells, can potentially affect N release and soil pH.

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