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I am a soil chemist with many years of experience in conducting research on the behavior of toxic metals and other pollutants in agricultural soils. My comment here is on the advisability of the practice of sewage sludge or biosolids application on farmland. It needs to be stressed that present federal (EPA) and state regulations were put into effect in 1993, cover only 9 toxic metals and a few indicator pathogens, and are now badly out of date. These rules provide no regulations or guidelines for the large group of biologically active and potentially toxic organic chemicals (including, but by no means restricted to perfluorinated compounds (PFAS), dioxins, PAHs, pharmaceuticals, plasticizers, antimicrobial agents and brominated fire retardants). All of these chemicals, and many more, are present in sludges and biosolids generated by municipal sewage treatment plants, as demonstrated, for example, by the US EPA 2006-2007 Targeted National Sewage Sludge Survey. The problem is further complicated by the fact that the contaminants of concern in sludges are a moving target; regulations established in 1993 have not adjusted to this fact. Many of the contaminants of greatest concern today (most notably, PFAS chemicals) were not known to be present in sludges at the time the rules were developed. The fairly recent discoveries (for example in Maine and Michigan) that the PFAS “forever chemicals” are being found on farms, in well water, and in vegetable crops and dairy food products where biosolids had been applied, sometimes decades earlier, is proof that present rules for biosolids application on land do not protect farmland, farmers or the general public. Instead, farmland application provides a direct pathway for contamination of food crops, meat, and dairy products with persistent organic toxins, including hundreds of PFAS compounds. Given this serious risk to farmers’ land and livelihood, and to the health of consumers, it is disturbing that little or no testing for PFAS has been conducted by NYDEC of soils, groundwater, crops, or dairy products on farms that are applying or have applied biosolids in the past.

It is claimed by proponents of biosolids as farm fertilizers that there are many decades of scientific research to support the practice of farm application of sewage sludge products as a “beneficial use” by the recycling of nutrients and organic matter. This claim may create the false impression

that there is presently a good understanding of the behavior and toxicity of the many chemicals presently found in sludges. In actual fact, few of the thousands of chemical contaminants in sludges have been identified and monitored, and fewer still have been studied in detail to determine their fate in soils and their tendency to transfer into surface and drainage water, into crops, or into livestock.

To conclude, given the strong possibility for long-term contamination of soils, groundwater and the food chain with persistent and toxic synthetic chemicals, the DEC proposal to increase application of sewage sludges or biosolids to farmland is misguided. Although there appear to be at present no good options for the disposal or re-use of this waste material, farmland application is in my view the most ill-advised and potentially dangerous option.

Respectfully,  
Dr. Murray McBride,  
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