

PRODUCTION OF CORN WITH FERTILIZATION FROM SEWAGE SLUDGE

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Since 1978, corn has been grown at South Deerfield, Massachusetts, on plots which have been fertilized with sewage sludge. Conventional fertilization of corn with regular commercial fertilizers is included in the experiment. From 1978 to 1971, corn hybrid Wisconsin 335A was used. In 1982, the hybrid Agway 584S was substituted for the previous hybrid with the intent of using a variety with higher yield potential than that of Wisconsin 335A.

All plots which received nitrogen fertilization from any source yielded about the same. No increase in yields occurred with additional nitrogen from sludge or from side dressing when the corn was about 3 feet tall. No depression in yields occurred with sludge applied at disposal rates (600 lb of N/acre or about 45 tons of sludge/acre with 28% solids in the sludge).

Studies from 1978 to 1981 showed no differences between yield produced with sludges from Sunderland or Amherst or between yields from crops grown with sludges or conventional fertilizers.

Thus far, no enhanced heavy metal accumulation (Cu, Zn, Cd) in the silage is apparent from the sludge fertilization.

Yields of Silage from Corn Fertilized Conventionally or with Sewage Sludge.

Fertilizer Treatment	Estimated Nitrogen Application	Yields of Silage ^X	
		1981 Wisc 335A	1982 Agway 584S
	lb/A	tons/acre	
None	0	19.7	17.6
10-10-10	100	20.5	22.1
Ammonium Nitrate	100	20.0	20.5
Amherst Sludge	200	22.4	23.4
	400	20.0	22.9
	600 ^y	----	21.5
Amherst Sludge + 50 N Sidedress ^Z	250	20.3	22.4
	450	20.0	21.4
	650 ^y	----	22.6

^ZSidedressing 30 days after sludge application.

^yIntroduced in 1982.

^XCorrected to 70% moisture.