

African Stockpile Project

Results landfarm Molodo

Note made by Joop Harmsen, based on result measured by Laboratoire Central Veterinaire

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CONCEPT

Results

The excavated soil has been sampled during excavation and the results are given in table 1. the measured concentrations have the same order of magnitude as measured with the investigation in 2007.

Table 1 Pesticides concentration in excavated soil July, 2008

	Parathion-ethyl	Dieldrin
Sample	g/kg	g/kg
1	10.53	6.43
2	3.47	8.85
Average	7.00	7.64

The excavated soil has been transferred to the landfarm and mixed with the soil present. The landfarm has been sampled. In November (what was the exact date?) the landfarm has been sampled again and samples were taken on the same location of the landfarm. Result are given in table 2. Not only concentrations are given, but also the ratio between parathion-ethyl and dieldrin. Dieldrin is not biodegradable.

Table 2 Pesticides concentration in soil on the landfarm

	July 16, 2008			November .., 2008		
	Parathio n-ethyl	Dieldrin	Ratio	Parathio n-ethyl	Dieldrin	Ratio
	g/kg	g/kg		g/kg	g/kg	
1	0.527	0.786	0.67	0.0095	0.442	0.021
2	1.497	0.518	2.89	0.021	0.745	0.028
3	1.615	0.869	1.86	0.011	2.775	0.004
4	3.085	1.081	2.85	0.01	0.775	0.013
5	0.868	0.459	1.89	< 0.003	0.118	<0.025
Average	1.52	0.74	2.03	0.011	0.97	0.018

As expected the dieldrin concentration on the landfarm keeps constant. This also shows that the sampling on both days were comparable and the same depths has been sampled. The parathion-ethyl concentration has decreased significantly. More than 99% has been degraded. Using the ratio also shows that more than 99% has been degraded.

Conclusion:

The landfarm is effective in degradation of parathion-ethyl. More than 99% of this pesticide has been degraded in the period July-November. This is a very high percentage. As expected dieldrin has not been degraded.

It can be expected that with next charge a shorter period of landfarming will also be effective.