

TEST PERFORMED ON THE COMPOSTING PLANT OF xxxxxxxx (ROMA)

FUNZIONING OF THE PLANT

The plant is fed with mud from biological depurators and waste from dairy plants, transported by truck. This mud is stacked inside hangars and is added mulched material coming from plant pruning and cutting. The deriving compost is left to mature for approximately 90 days, after which the final product is ready to be utilized as biological fertilizer.

TREATMENT WITH THE BACTERIA BASED PRODUCT

People responsible for the composting plant have agreed to perform a test with NEPH products for Garbage and Composting on September 17, 2002. The test is performed on an 8m x 4m, 2m high tank, containing approximately 60 cubic meter of mud mixed to a high percentage of mulched greenery.

One cubic meter of such material was isolated, for non-treatment, in order to compare date with the treated one. An additional tank with 500 l of fresh water was. At 15:15 ingredients 1 and 2 were mixed into 10 l of water at 35° C and stirred. At 16:15 the mixture plus ingredient 3 were mixed together, diluted into the 500 l tank. The content of this tank was spread over the 60 cubic meter of compost to be treated. The spreading lasted approximately two hours and a half.

COST OF THE TREATMENT

The cost of a box of product is approximately 360 €(VAT Included), enough to treat a volume of 100 cubic meters of compost. Consequently the direct cost per cubic meter is 3.6 €

GENERAL OBSERVATIONS

Right from the day after the treatment all the foul odors disappeared as well as flies and other insects. No more ammonia vapors were noticeable at the site.

With the utilization of such bacteria the temperature inside the compost rises for a better cleansing of the compost.

On October 8 and November 5 two treated samples and two untreated samples were analyzed (20 days and 45 day after irrigation respectively). Such samples were analyzed at the agro-environment and bromatologic lab of Guidonia (Rome) and the results are published hereafter.

COMPARED ANALYSIS TEST xxxx

	PH		HUIDITY		DRY SUBSTANCE		ORGANIC CARBON		TOTAL NITROGEN		ORGANIC NITROGEN		C/N		HUMIC AND FULVIC ACIDS	
	Treated	Untreated	Treated	Untreated	Treated	Untreated	Treated	Untreated	Treated	Untreated	Treated	Untreated	Treated	Untreated	Treated	Untreated
After 20 Days	5,64	5,34	58,4	60,52	41,6	39,5	20,55	18,51	1,74	1,34	1,61	1,22	11,8	13,8		
After 45 Days	7	7,9	60,66	66,52	39,3	33,4	21,29	17,59	1,88	2,38	1,75	1,55	12,2	11,3	8,5	3,5
Limits (748/84)	6-8,5		< 50% s.t.q.				> 25% s.s.				> 80% of total nitrogen		< 50		> 2,5% s.s.	

DEFINITIONS

PH: Measures the degree of reaction of the system.

HUMIDITY: Must be approximately 50% (else the temperature rises excessively)

ORGANIC CARBON: Is the energy accessible to microorganisms

TOTAL NITROGEN: It is the necessary substance to the formation of cellular structure

ORGANIC NITROGEN: It is the organic component of total nitrogen

C/N: It is the ration between Organic Carbon and Total Nitrogen (in optimal conditions it is less than 35)

As it can be seen from the results, almost all the parameters of the treated samples are within the boundary limits, and if they are not, are however better than the parameters of the untreated samples, which is some cases drop abruptly. This observation makes us believe that with the composting without treatment (lasting approximately 90 days) such values will go down even further, away from the limits. A last observation is that the values of the treated samples show smaller fluctuations, bringing more balance and stability to the whole system.