Impact of Decomposition on Total Carbon and Total Nitrogen Content of Soil beneath Rabbit Carcass

Sarabjit Singh* and Madhu Bala
Department of Zoology & Environmental Sciences Punjabi University Patiala, Punjab (India)
E-mail- Sabi_ghotra88@yahoo.com

INTRODUCTION

Soil material is powerful contact trace and may even be considered as approaching the ideal. The present study was based upon the changes that occur in total carbon and total nitrogen content of soil after decomposition of carcass placed on soil surface. Soil from each decomposition stage was tested for the mentioned mineral content.

MATERIAL AND METHOD

The soil samples were collected on daily basis this is due to small size and rapid decomposition of the carcass. The soil samples were taken from upper layer i.e. 0-5cm of decomposed soil beneath carcass with the help of stainless spatula. The total carbon and total nitrogen of soil was estimated by using Vario EL Cube Elementar CHNS analyser. The temperature of combustion tube was maintained at 1150°C and 850°C for reduction tube. Following procedure was used for analysis:

Four standard solutions were prepared by using 0.005 gm of Sulphanilamide and distilled water.

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40 mg of crushed soil samples were weighed in a tin foil.

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60 mg of tungsten oxide is added, act as a catalyst.

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The prepared samples were placed in CHNS analyser to analyse total cabon and total nitrogen of soil.

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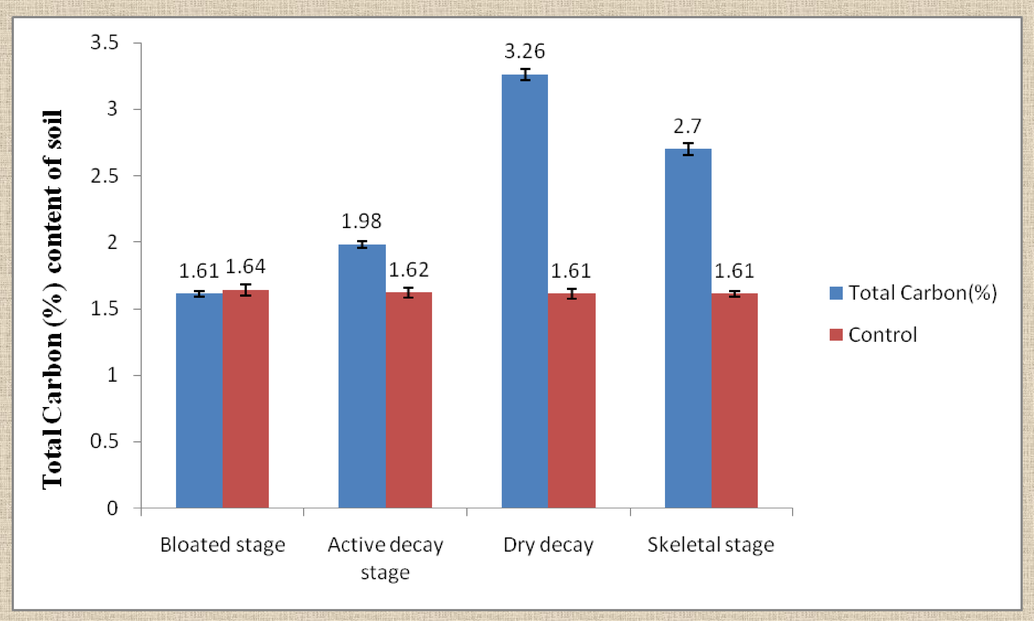
In this process the combustion products CO_2 and NO_2 were carried by a constant flow of carrier gas (helium) that passes through a glass column packed with an oxidation catalyst of tungsten trioxide.

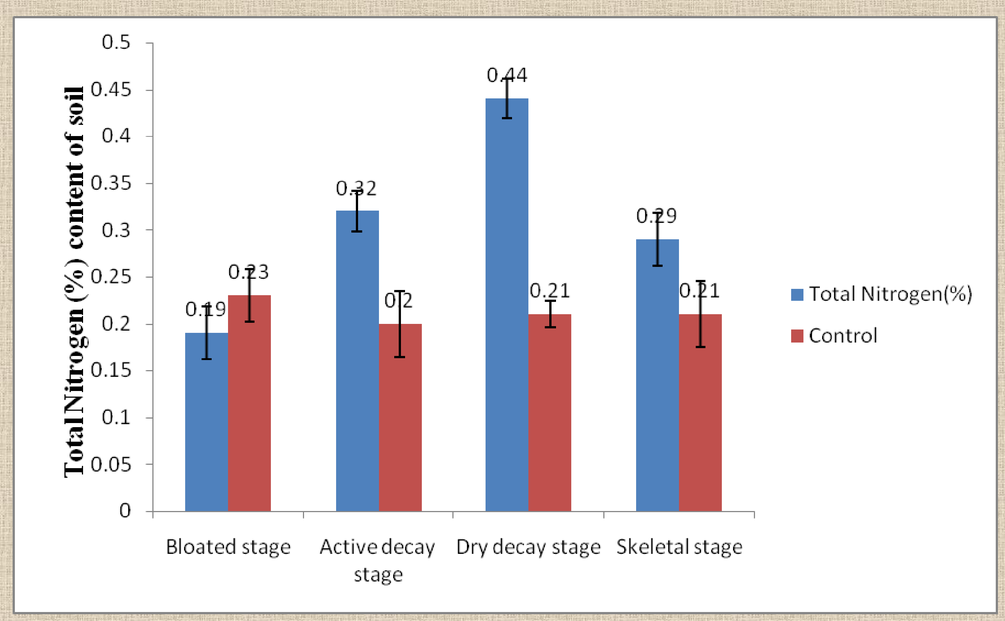
Total Carbon (%) content of control soil and soil beneath Rabbit Carcass

Sr.No.	Decomposition Stages	Total Carbon (%)	Control soil (%)
1.	Fresh stage	1.64	1.63
2.	Bloated stage	1.61	1.64
3.	Active decay stage	1.98	1.62
4.	Dry decay	3.26	1.61
5.	Skeletal stage	2.70	1.61

Total Nitrogen (%) content of control soil and soil beneath Rabbit Carcass

Sr.No.	Decomposition Stages	Total Nitrogen (%)	Control soil (%)
1.	Fresh stage	0.23	0.24
2.	Bloated stage	0.19	0.23
3.	Active decay stage	0.32	0.20
4.	Dry decay stage	0.44	0.21
5.	Skeletal stage	0.29	0.21





Total Carbon (%) content of control soil and soil beneath Rabbit Carcass [P = 0.05(Significant)]

Total Nitrogen (%) content of control soil and soil beneath Rabbit Carcass [P = 0.10 (Not Significant)]

RESULTS: In present study the total carbon and total nitrogen content would increase during dry decay stage of decomposition. Otherwise there was no significant difference between total carbon and nitrogen content of control soil and experimental soil occurred during other stages of decomposition. The total carbon concentration in soil was due to carbon dioxide gas could release from the body of carcass and mixed in soil or lost in environment. In case of nitrogen there is either organic and inorganic forms i.e. NO_3^-N and NH_4^-N of nitrogen which helps to increase the level of nitrogen. A decomposed carcass is a rich source of nitrogen and the nitrogen forms are being released during decomposition. Due to this large amount of nitrogen content into soil is due to influx fluids into the soil.