

## Effect of dung, urine and slurry of different farm animals on yield and quality of spinach

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### ABSTRACT

Experiment was carried out in the department of Soil Science and Agriculture Chemistry, Marathwada Agriculture University, Parbhani during January to March 2006. Application of dung urine slurry of sheep, goat, jafabadi and murrha buffalo gave significant higher yield over cow and bullocks. Dung urine slurry of lal kandhari cow and lal kandhari bullock showed low yields and organic carbon content in among the animals. Dung, urine and slurry of sheep gave superior results with respect to quality of spinach. Results indicated that the highest yield was obtained with dung urine slurry of sheep followed goat and jafabadi buffalo.

**Key words :** Dung, Urine, Slurry, Yield and quality of spinach, Farm animals

### INTRODUCTION

The use of cow-dung in agriculture was shown since long time. It was used for dressing seed, plastering cut ends of vegetatively propagating sugarcane, dressing wounds, sprinkling diluted suspension on plants etc. since ancient time. Indian farmer use cow-dung in different ways. In general the cow dung urine slurry of farm animals gave good effect on vegetative and reproductive growth of different crops. The chemical fertilizers are costly and are not easily available to the farmers hence farmers are attracted towards the organic sources. Organic manures are bulky and leafy vegetable and are easier and cheaper to transport, handling and storage. They were also relatively inexpensive initially and produced much greater responses. These organic manures are having long term effect on soil. It maintains soil fertility for longer time. These are the the main source of replacing soil fertility. Organic manure presently used regularly by farmers growing sugarcane, fruit and vegetable crops. The vegetables play an important role in the balanced diet of human beings by providing not only the energy rich food but also promise supply of vital protective nutrients like minerals and vitamins.

Yamazaki (1998) observed effect of soybean meal, compost pig manure and composted cattle dung mixed with sawdust applied singly, on the yield and quality leafy vegetables like spinach, lettuce and cabbage for five years experiment. The effect was related to the decomposition of organic nitrogen and was greater with soybean meal than either with pig manure or cattle dung mixed with slurry. Cattle dung mixed with slurry alone did not maintain yields. Better quality was obtained with pig manure and cattle dung mixed with saw dust than with chemical fertilizer.

Sharma (1995) in a trial with okra recorded maximum yield of green pod with the application of fermented dung and slurry.

### MATERIALS AND METHODS

The dung urine and slurry prepared from urine + dung of different cattle was analysed for biochemical characteristics. The cattle selected were jersey (cross bred cow), lal kandhari (Desi cow), lal kandhari (desi bullock), jafabadi buffalo, murrha buffalo, sheep and goat. They were fed with fodder on same farm. The animals selected were three to five years age. The effect of dung urine and slurry prepared from different farm animals on yield and quality of spinach was evaluated with pot culture experiment conducted at Department of Soil Science and Agricultural Chemistry, Marathwada Agricultural university, Parbhani during 22 January to 22 March, 2006.

Eight treatments were replicating by three times during summer season 2006 (Jan.-March) using Spinach (vegetable) variety Pusa Jyoti. Recommended dose of fertilizer @ 100:50:50 (NPK) was compared with different treatments of dung urine slurry of different farm animals.

During experimentation treatments given were as follows: T<sub>1</sub>-Dung urine slurry of cross breed cow (jersey), T<sub>2</sub>-Dung urine slurry of cow deshi (lal kandhari), T<sub>3</sub>-Dung urine slurry of bullock deshi (lal kandhari), T<sub>4</sub>-Dung urine slurry of buffalo-jafabadi, T<sub>5</sub>-Dung urine slurry of buffalo deshi (murrha), T<sub>6</sub>-Dung urine slurry of sheep, T<sub>7</sub>-Dung urine slurry of goat and T<sub>8</sub>-RDF

Dibbling 6 to 7 seeds in each pot did sowing. Thinning was done to maintain proper plant population in each experimental pot. Only two plants were maintained in