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## **Young scientist may have solution for poultry waste**

Rajiv Mani, TNN 31 July 2009, 05:03am IST  
ALAHABAD: There could soon be a solution for the pollution caused by the poultry waste, mainly the feathers. A young Indian scientist has discovered a unique bacteria which could help in addressing this problem. Worldwide, around 18,500 lakh tonnes of poultry feather is generated annually, of which India's contribution alone is 3500 tonnes.

The finding does not end here. The young scientist has also found out that once feathers are degraded, certain bacteria and enzymes can be added to the residual matter following which the new synthesised matter can either effectively be used as [pesticide](#) or poultry feed.

The discovery has been made by Sathya Balachander, a 20-year-old engineer pursuing

BTech from Shanmugha Arts, Science, Technology and Research Academy (SASTRA) University, Thanjavur, Tamil Nadu. Sathya is on a two-month fellowship of the Indian Academy of [Sciences](#), Bangalore. As part of the programme he is conducting his experiments at the Biological Product Lab of Prof Anupam Dikshit, department of botany, Allahabad University. Prof Dikshit too has a number of patents to his credit.

The bacteria found by Sathya has been endorsed by the National Council of Biotechnological Information (NCBI), Delhi. "It is clear from the experiments conducted at the lab that this particular bacteria effectively degrades a feather within 48 to 72 hours," said Prof Anupam Dikshit.

"I am working on a bacteria called *Streptomyces indiaensis* found from the soil of a feather dumping ground at Vallam in Thanjavur which has the potential of degrading

the hard sulphur bonds present in Keratin (the substance present in a feather which gives hard protection to chicken, or for that matter in any other bird, against extreme environmental conditions)," he said. "A single feather naturally gets degraded in five to seven years but this particular micro-organism enhances the speed of degradation after which the same feather gets destroyed within 48 to 72 hours," added Sathya. The poultry feathers are either dumped, which pollute the soil, or are burnt which again pollutes the air. In both the cases the presence of sulphur dioxide in feathers is cause of pollution.

Around 24 billion chickens, per year, are killed across the world which is discarding four billion pound (18,14,369 tonnes) of poultry feather. This mammoth size of discarded feather, apart from polluting the soil or air, also causes various human ailments including chlorsis, mycoplasmas and fowl cholera said Sathya, sharing his view on the magnitude of pollution

arising from feathery waste.