

# **Tea seed improves quality on golf greens**

*November 19, 2010*

## **Natural product eliminates earthworm casts on the soil surface**

The quality of golf greens can be significantly improved by application of tea seed cake, a natural bi-product from oil production, shows a scientific study. It concludes that tea seed cake can be effectively used in selective management of earthworm casts on golf courses and sport fields.

The soil-rich excrements of earthworms are normally put as casts on the soil surface, disrupting the playability and aesthetics on golf putting greens. This results in a muddy surface and can affect the ball's trajectory. American scientists significantly reduced earthworm activity by applying natural tea seed cake on the turfgrass of putting greens, expelling earthworms from the soil. Tea seed cake has a vermicidal effect and reduced earthworm casts with 90-100% depending on dosage rates, 15 days after treatment. The effect was still good after 35 days (85-99 % reduction).

The tea seed did not affect the abundance of the soil microarthropods, and the study found that it did not disrupt beneficial soil invertebrates other than earthworms. No phytotoxicity or turf discoloration was detected. The study concluded that use of the natural product from tea seed was very effective in the control of earthworms and did not seem to have any negative sideeffects.

The tea seeds are derived from the plant *Camellia oleifera*, and are commonly used as the source for food oil production. They contain antioxidants and triterpene saponins. Saponins are produced by plants as natural defence compounds, and are commonly known to control damaging pathogens and pests in agri- and horticulture.

## **Help in airport bird control**

The study also suggests that the earthworm-reducing effect of tea seed cake can be used to reduce bird numbers in airports and thereby prevent bird strike hazards. By applying tea seed on grass strips in airports, the feeding basis of the birds is removed, and the birds will find other places to search for food.

## **Natural management**

Nor-Natur ApS has developed a number of natural alternatives to synthetic pesticides, soil improvers and fertilizers. One of these is QuitSlug™ - a product based on tea seed cake. It has shown effects similar to those mentioned in the American study. For more information on QuitSlug™ and the natural alternatives to pesticides, see [www.nornatur.net](http://www.nornatur.net) or contact [Nor-Natur ApS](mailto:Nor-NaturApS) directly.

## **References**

Potter DA., CT. Redmond, KM. Meepagala, DW. Williams (2010). Managing earthworm casts (Oligochaeta: Lumbricidae) in turfgrass using a natural byproduct of tea oil (*Camellia* sp.) manufacture. Pest Manag Sci, Vol. 66, pp. 439-446.

Seamans TW., GE. Bernhardt, DE. Steyer (2008). As the Worm Turns: Investigations into Earthworm Control on Airports (Abstr.). Proc 10th Ann Meeting Bird Strike Committee USA/Canada, Orlando, FL.