



Agrisolutions

N A T U R A L A N S W E R S

Dang Dung Beetles ("Dirty deeds dung dirt cheap")

'Women on Farms' are responsible for many innovative ideas and on this occasion John Feehan from Soilcam, Canberra was guest speaker at its meeting at the Tynong North Hall on 2nd July 2002. Addressing over 100 people, John was able to graphically display his passion and 30 year experience in entomology with the CSIRO and the significant value these critters have to the farming and broader community.

Notwithstanding his frustration with government departments and various authorities in their lack of foresight and support, John explained the progress made with the introduction of imported dung beetles to Australia. The program to establish dung beetle species and populations capable of dealing with large quantities of livestock dung began in 1968. Research and importation of dung beetles from Africa and Europe officially ended in 1993.

Considering 2-3,000 bush flies can be hosted in every single cow pad and are mature to breed again in 3 weeks, the fly problem alone can be enormously diminished with active dung beetles. A cow will deposit about 12 pads of 2 kg a day. So 250 head of cattle will excrete 6 tonnes/day, 42 tonnes/week, 182 tonnes/month or 2184 tonnes/year. This is a lot of fly food – and heaps of free nutrients going to waste if not incorporated in the soil. Left on the surface, 80% of the manure nutrients are volatilised in the atmosphere or taken away by runoff. If taken into the soil by dung beetles, 80% is available to the soil and plants. No farmer could afford to bring 1747 tonnes of fertiliser on his 250 head farm and yet this is FREE!

The burial of nutrient rich dung in tunnels excavated by beetles increases soil productivity. By improving soil structure, particularly in poor and compacted soils where grass roots are unable to penetrate, moisture and nutrients become more widely available in the plant root zone. Improved surface moisture penetration helps to reduce nutrient run-off from dung and fertilisers reaching dams, creeks and rivers.

Even though Australia hosts a large number of native dung beetles adapted to pellet-like marsupial dung, about 40 species of exotic dung beetles have so far been introduced to break down the manures of farmed animals. Climatic and geographic limitations necessitate 6-10 species be colonised on farms to get year round activity in dung removal. Most dung beetle activity takes place in spring, summer and autumn but recently a winter active species has been identified for introduction to farms in southern Australia. And, in any case, earthworms are at their most active during the winter converting organic material into plant food and aerating the soil.

The life cycle of dung beetles sees beetles actively consuming dung and burying it for 2-3 months followed by a hibernation period. Only when similar seasonal conditions prevail do the beetles once again become active, coming out of dormancy from the eggs that were laid up to 300mm in the soil during the previous active season. Depending on species, some dung beetles will go through 1-2 life cycles during an active season. Each mature female beetle will lay 60-80 eggs in a season thereby increasing population by this factor in one generation. Dung beetles are known to spread up to 2km per year if unimpeded by bush or barrier and will diminish in density for a period of time after their release before consolidating their population.

FOR FURTHER INFORMATION CONTACT

AgriSolutions Pty Ltd

P O Box 81, Darnum Vic 3822

Phone/Fax: 03 5627 8663

info@agriculturalsolutions.com.au

www.agriculturalsolutions.com.au

A.B.N. 72 081 445 141