



The 2013 No-Till Conservation Agriculture Conference was a huge success, with several farmers and agricultural advisors attending the event.

# The ABCs of no-till

by Nichelle Steyn

The 2013 No-Till Conservation Agriculture Conference, held from 3 to 5 September at the ATKV Drakensville resort, is over and was once again a great success. The event focused on making farmers and agricultural advisors more aware of the positive effects that no-till conservation agriculture has on the environment, soil health, sustainable agriculture and food security.

Richard Findlay, committee member and coordinator of the No-Till Club of KwaZulu-Natal said, "Each year it is a challenge to create a programme that will stimulate experienced no-till farmers, new converts and emerging farmers alike. No-till sounds simple, like riding a bicycle, but initially someone needs to show you how to do it." Providing for farmers who have either just started or are considering switching to no-

till, it was decided that four experienced farmers in no-till should present their work and share their experiences. Anthony Muirhead from Winterton, Egon Zunckel from Bergville, George Steyn from Ottosdal and Ralf Kusel Paul from Paulpietersburg were asked to help.

Simple pans that hold soil were made to demonstrate the importance of creating and



Ralf Kusel, Paul Egon Zunckel and George Steyn shared their no-till success stories with visitors.

maintaining mulch on the soil surface. This was also done to demonstrate in a practical way what no-till is about. The two demonstrations illustrated the protection given by an effective mulch in reducing water and wind erosion. Erosion plays a major role in the deterioration of soil structure, temperature regulation, the increase of water infiltration and soil fertility.

A white plastic sheet was laid out and trays filled with soil with different percentages of mulch cover were watered to assimilate rainfall. Those with the higher percentage mulch had fewer splashes while in those trays with no mulch a great deal of splash occurred. The water was collected in beakers to show the amount of soil which had been dislodged. Various gradients were used to illustrate that the greater loss of soil the higher the degree of slope.

Mulch on a maize field harvested for grain is relatively easy to obtain as the material decomposes slowly, mostly at harvesting time. It is essential to manage the spread of this material during harvesting. Cover crops are used extensively to improve soil structure and fertility as published in international no-till magazines. Soil scientists say it is essential to leave roots of the previous crop intact and not invert the soil by ploughing or dicing. The rate of decomposition



1. The raindrop splash effect was demonstrated to illustrate the results of different percentages of mulch cover.
2. In another demonstration, soil wash trays covered with different percentages of mulch were watered. The water was collected in beakers to show that the greater the loss of soil, the higher the degree of slope is.

of the organic material, which is responsible for feeding millions of microbes and insects that live in the soil, will increase. By diminishing organic matter, this food supply jeopardises the wellbeing of these microbes and reduces soil health.

During the conference the Cedara soil science department, along with Valtrac and Agricol, established a demo cover crop plot to show what some of these ideal green cover crop species look like. In addition, several speakers shared their knowledge. The word "allelopathic" is another natural phenomenon we need do more research on. Dr Suzette Bezuidenhout of the plant protection unit at the Department of Agriculture in KwaZulu-Natal explained that some plants have an effect on others when planted together, which could either enhance or hinder the performance of the companion plants.

Pastor August Basson of Growing Nations in Lesotho inspired delegates with his talk on how agriculture, combined with faith, builds self-worth. Dr Hendrik Smith of Grain SA, alongside Guy Thibaud from the Department of Agriculture in KwaZulu-Natal Cedara soil science, was asked to analyse the recommendations of international speakers who had

addressed the no-till conferences over the past four years and highlight what was applicable and practical for South African farming conditions.

Prof Erik Holm of ZZ2 summarised their management philosophy in one word: teamwork. "A chain is only as strong as its weakest link," he said. Bertus Venter, manager of the Natuurboerdery farming system, explained the logic behind this system. "The system is designed to produce food that is environmentally acceptable to their customers and consumers. ZZ2 produces compost for 50 000 ha, in excess of 1,5 million litres of compost tea and more than 1 million litres of effective microbes," he says.

Ernst Janovsky from ABSA AgriBusiness spoke about the effects of the macro-economy on agriculture. The last session included the sharing of good news stories from Victor Mahlinsa, an emerging commercial farmer from the Estcourt area. Since returning from working in the Johannesburg area, he now successfully farms 70 ha of dry-land maize and beans as well as a 10 ha vegetable production unit.

The conference ended with a panel discussion, during which farmers could ask questions to the speakers and other experts present. **TDM**



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