

The change to conservation agriculture among dryland wheat producers in the summer rainfall areas

Adoption to conservation agriculture: Low rate amongst FS wheat farmers

In switching from conventional farming to conservation agriculture, producers must make changes that completely alter their traditional way of farming. Despite several efforts, adoption rates of conservation agriculture by dryland wheat farmers in the Free State are very low. A change to conservation agriculture brings about a benefit of improving soil moisture storage efficiency and drought resistance of the crop.

**Nondumiso Zanele Sosibo,
Ernest Dube**

AGRICULTURAL RESEARCH COUNCIL-
SMALL GRAIN, BETHLEHEM

Change is inevitable. Wheat producers should embrace change as a way of their working life for the survival of their agri-businesses. Conservation agriculture (CA) is now widely accepted as the future of sustainable soil management and profitable crop production in South Africa and should be embraced by all producers.

However, in switching from conventional farming to CA, producers must make changes and initiatives that completely alter their traditional way of farming. The producers must farm by the three principles of CA, which are minimal mechanical soil disturbance or no-till, permanent soil cover through cover crops/crop residues and diversified crop rotations.

Conservation agriculture improves soil organic matter, and consequently soil physical, chemical and biological properties. The inclusion of legumes such as soybean in the rotation system improves nitrogen and reduces N requirements for wheat crops. Even greater savings are realised through reduced or no-tillage when practising CA.

For the dryland wheat producers of the summer rainfall area in the Free State, a change from conventional tillage to CA brings about a very important

benefit of improving soil moisture storage efficiency and drought resistance of the crop. Having adequate soil moisture at wheat planting time in the months of May-July is particularly critical for dryland wheat, as little to no rainfall is received at wheat planting time in the Free State. The crop relies on stored soil moisture for early growth and development.

Reduced tillage practices and mulches on the soil surface will reduce losses of deep-seated soil moisture when CA is practised. Soil organic matter, which naturally increases under CA, has a sponge effect on the soil and will increase the moisture-holding capacity.

In the Western Cape, the expansion of CA among dryland wheat producers has been increasing, and current adoption rates are estimated at 90%. However, in the Free State, adoption rates of CA by dryland wheat farmers are very low, despite several efforts promoting the practice. This is evidenced by intensively ploughed fields that can be seen all over the province at wheat planting time.

The major problems with conventional tillage are land degradation through erosion, an ever-increasing fertilizer input required to maintain yields, and increasing drought susceptibility of the dryland wheat crops. One cannot help but wonder whether producers of dryland wheat in the summer rainfall areas are not aware of the benefits of CA or generally lack knowhow of how to do CA.

This of course is likely not the case,

as scientific information regarding CA is now widely available, especially to commercial farmers. Hence, we ask the question, "What is it that we should do to encourage CA adoption among dryland wheat producers in the summer rainfall areas?"

It should be noted that the change from conventional agriculture to CA is not limited to only a change in farming equipment, crop choices for rotation, tillage system and other farming practices. It also requires a change of the human environment and psychological perspective of CA. Shifting to CA requires producers to fully embrace CA, and modify something about the way they view farming, think, feel, or behave.

The human aspect

The problem of low adoption rates of CA among dryland wheat farmers in the Free State should thus be looked at different levels, including the resistance of producers to change towards CA. The need for a change of mindset in the movement towards CA is discussed frequently by CA experts, but there appears to be limited understanding of the causes of the resistance to change, or what needs to be done to change mindsets.

Perhaps the change of mindset should be proposed as the fourth principle of CA, acknowledging that the human aspect is the most critical factor to a successful implementation of change from conventional farming to CA.



We must try and understand some of the possible causes of the dryland wheat farmers' resistance to change towards CA. First and foremost is the issue of 'old habits dying hard'. Wheat producers are comfortable in their traditional farming practice because they have been using it over time and it is a culture they inherited from their forefathers. They worry that changing to CA requires new resources e.g., no-till planters which they are not familiar with, new knowledge and skills. They feel insecure about CA and are sceptical about the short-term economic implications of CA.

Interventions are required to help overcome the producer's fears and resistance to change. Some possible strategies include more education about why CA is a must, as well as involving wheat producers in the planning, design and implementation of CA so that their reservations get ironed out through interacting with CA experts.

Producers should probably also be given ample time to adopt the practice through CA experimentation on their farms without putting pressure on them. Those producers who have successfully implemented CA on their farms should then be encouraged to share experiences

with others, as seeing is believing.

Most importantly, wheat producers should also be given a platform to raise their frustrations, fears and complaints about CA so that experts can address all their concerns and make CA more attractive to them. In this regard, funding of organisations that could play an important part in CA promotion and training, such as the Agricultural Research Council-Small Grain in Bethlehem, should be increased.

Part of addressing these challenges may also include the provision of incentives or special benefits to encourage hesitant farmers. ♣

Jong wenners is "die beste van die oes"

Gerhard Bruwer (40) van die plaas Genade Boerdery in die Douglasdistrik in die Noord-Kaap is vanjaar se Toyota SA/Agri SA se Jongboer van die Jaar.

Bruwer boer onder meer met koring, gars, sonneblom vir saad, mielies, aartappels, pekanneute, uie en grondbone. Sy gediversifiseerde boerderyvertakkings sluit ook beeste, lusern en druiwe in. Bruwer skryf sy sukses toe aan sy ondersteuningsnetwerk en sy plaaswerkers.

Die suksesvolle hops- en proteaboer Beverley Joseph van die plaas Zelpy naby George die Wes-Kaap, het die Toyota SA Nuweoes-toekenning ingepalm. Joseph het ná die aankondiging in Johannesburg gesê haar reis as 'n vrou of bruin persoon wat toegang tot hierdie bedryf probeer verkry het, was moeilik, maar nie uniek nie. Sy het gesê haar liefde vir landbou maak dit nie moeilik om sog-

gens op te staan en met haar dagtaak te begin nie.

Jaco Minnaar, voorsitter van Agri SA, het na afloop van die geleentheid gesê die deelnemers aan albei kompetisies is van hoogstaande gehalte en 'n toonbeeld van landbou se toekoms. Bruwer en Joseph het elkeen met 'n splinternuwe Toyota Hilux-enkelkajuitbakkie wegger.

Dit is vanjaar die sewentiende jaar dat die Jongboer-kompetisie deur Toyota SA geborg word. Boere van 40 jaar en jonger wat minstens twee jaar lank 'n opbetaalde lid van hul provinsiale landbou-organisasie is, kan inskryf. 'n Wenner word uit elke provinsie gekies, waarna hulle finaliste is in die Jongboer van die Jaar-kompetisie.

Volgens Minnaar word die beoordeling uiters professioneel gedoen.

"Ons is baie trots op Bruwer. Al die deelnemers is jongboere om op trots te wees en ek doen 'n beroep op hulle om hulself vorentoe beskikbaar te stel as leiers in die georganiseerde landbou en hul gemeenskappe," het Minnaar gesê.

"Joseph se sukses is 'n voorbeeld van wat deur harde werk en deurstellingsvermoë bereik kan word. Dit is duidelik dat al die deelnemers aan die Jongboeren Nuweoes-kompetisie nie net werkskeppers is nie, maar ook die belang van hulle werkers baie ernstig opneem."

Bruwer is aktief betrokke by georganiseerde landbou. Hy dien in die bestuur van verskeie landbouorganisasies, soos Douglas se Landbou-unie, Graan SA, Oranjeval Watervereniging en sy boerevereniging. Bruwer is voorsitter van Graan SA se grondboneforum. Hy en sy vrou Liesel het drie kinders. ♣