

Australian Soil Carbon Accreditation Scheme (ASCAS)

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Introduction Australia has the highest per capita rate of greenhouse gas emissions in the world . Appropriately managed farmlands could effectively retrieve , store and utilise most of the excess carbon being emitted to the atmosphere , converting a potential hazard into an extremely productive opportunity . Humified organic carbon has many benefits in soils .

The Australian Soil Carbon Accreditation Scheme (ASCAS) rewards landholders for adopting innovative techniques designed to sequester soil carbon . The ASCAS project is a first in the Southern Hemisphere , making Australia a world leader in the recognition of soils as a verifiable carbon sink . Effective carbon management is a key factor for productive farms , revitalised catchments and a greener planet .

The ASCAS project will provide proof of concept that :

- i) innovative management practices exist for increasing the level of carbon in agricultural soils
- ii) improvements in soil carbon and soil health can be measured
- iii) landholders can be financially rewarded for building soil carbon

Materials and methods baseline soil carbon levels in the 0-110cm profile were determined between August and October 2007 within Defined Sequestration Areas (DSAs) located on regeneratively managed broadacre cropping and grazing lands across Australia . In 2008 and 2009 the first Soil Restoration Incentive Payments (SCIPs) will be paid retrospectively for measured , validated soil carbon increases above these baseline levels .

Receipt of Soil Carbon Incentive Payments will be similar to being paid on delivery for livestock or grain , with the bonus being that sequestered carbon remains in soil , conferring multiple landscape health and productivity advantages .

Results and discussion Initial results indicate that soil carbon can build rapidly when farm operations enhance-rather than detract from-the four-step soil-building process of photosynthesis , resynthesis , root exudation and humification (Jones , 2007) . The humification step is generally absent from conventional chemically-based (including Zero Till) cropping programs-hence it is difficult for soil carbon to accumulate using standard practice in the Australian environment .

Conclusion The Australian Soil Carbon Accreditation Scheme (ASCAS) will convincingly demonstrate that levels of stable soil carbon in agricultural soils CAN be increased , CAN be measured and CAN be financially rewarded .

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Reference

Jones , C . E . 2007 . Building soil carbon with Yearlong Green Farming (YGF) . *Evergreen Farming* , Sept . 2007 , p . 4-5 .