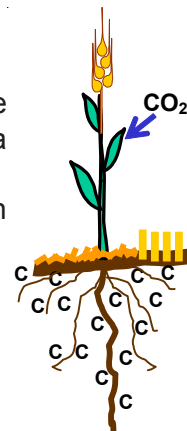


MITIGATING CLIMATE CHANGE: Conservation Agriculture Stores Soil Carbon

THE ISSUE

Conservation agricultural systems for crops and pastures sequester carbon from the atmosphere into long-lived soil organic matter pools; they maintain and increase productivity, promote a healthy environment, and strengthen rural communities. Potentially one-third of the carbon emitted in current fossil fuel use could be offset by implementing conservation agriculture globally in the next decade.



RECOMMENDED ACTIONS

- Include soil carbon as a class of offset credits for greenhouse gas emission trading
- Develop and harmonize carbon offset markets to recognize conservation agriculture
- Fund research and technology transfer to refine protocols for local and regional conditions
- Establish policies to facilitate soil carbon protocols as an instrument of transparent markets
- Recognize soil carbon as an ecosystem service that protects the environment and provides economic opportunities

RATIONALE

- Conservation agriculture enhances soil quality by:
 - o Minimizing soil disturbance, consistent with sustainable production,
 - o Maximizing soil surface cover by managing crops, pastures and crop residues, and
 - o Stimulating biological activity through crop rotations, cover crops and integrated nutrient and pest management.
- Complementary practices can be developed to alleviate compaction and poor internal drainage, which could otherwise cause significant emission of even more potent greenhouse gases, such as nitrous oxide (N₂O) and methane (CH₄).
- Successful adoption of conservation agriculture requires a change of paradigm, recognizing nature's time scales. Technology transfer and support among farmers, advisors and researchers needs to be facilitated to promote an integrated production system.
- Conservation agriculture reduces pollution by avoiding greenhouse gas emissions, improving energy efficiency, avoiding nutrient loss and protecting water quality. Soil health and biodiversity are enhanced.
- Conservation agriculture is a powerful mechanism to adapt to climate change by increasing resilience to drought and increasing water-use efficiency.
- Soil carbon trading is a financial incentive for encouraging environmental goods and services.

IMMEDIATE ACTION ON THESE RECOMMENDATIONS WILL LEAD TO

- Cost-effective climate change mitigation
- Increased opportunities for economic growth in agriculture
- Reduced need to consider more expensive offsets, such as point mitigation (at the stack)
- Affirmation of our concern with climate change, the environment and economic opportunities
- More biologically diverse and healthier farm landscapes
- Achieving global food security

