**“Farming Forward for Climate Change” – A Manifesto for Action**

Global decision makers need to adopt sensible action plans for sustainable food production in a changing climate. Conservation Agriculture systems provide an appropriate response with proven technology and farmer support.

COP21 provides an opportunity to create the impetus for Conservation Agriculture (CA) to move conventional agriculture toward more sustainable systems that are environmentally responsible. CA is practiced on about 160 million hectares around the world. It can spread much further with the help of networked farmer organizations willing to integrate their expertise and pragmatic experiences across nations.

**Global Issues:**

1. Climate is changing everywhere in the world. Agriculture is dependent upon climate and exposed to climate change.
2. Agriculture needs to adapt and be resilient to a changing climate.
3. Agriculture can also contribute to greenhouse gas emission reductions even though it is only 14% of global emissions.
4. Agriculture produces food for a growing global population with expectations of a safe and secure food supply.

**Conservation Agriculture** (CA) is an operational and integrated approach of agro-ecology to manage agro-ecosystems for improved and sustained productivity, increased profits and food security while preserving and enhancing the resource base and the environment. CA is characterized by three linked principles:

1. Minimum mechanical soil disturbance.
2. Permanent soil cover.
3. Diversification of crop species grown in sequences and/or associations.

CA principles are universally applicable to all agricultural landscapes and land uses with locally adapted practices. CA enhances biodiversity and natural biological processes above and below the ground surface. Detrimental interventions such as mechanical soil disturbance are reduced to an absolute minimum or avoided, and external inputs such as agrochemicals and plant nutrients of mineral or organic origin are applied optimally and in ways and quantities that do not interfere with, or disrupt, the biological processes. CA is compatible with a wide range of agriculture production systems and farm types.

Conservation agriculture is a best practice for food security, provides resilience to cope with pending climate extremes, protects environmental quality, and stores carbon in the soil reducing agriculture’s global carbon footprint.

**Current situation**

1. CA systems and their derivatives have largely been developed by farmers.
2. Innovative researchers have definitely contributed but many research institutions have lagged behind farmers and the agriculture industry as they pushed forward with on farm experimentation and development.
3. The researcher – farmer divide. Complex farming systems like CA are difficult for researchers to tackle as it is contrary to their drivers.
   1. Researchers are often linked to short term projects.
   2. Affordable research tends to gravitate to simpler, single factor or limited multi-factor experiments. Medium to longer term systems research is ignored
   3. CA takes time for new soil/plant ecosystems to develop.
   4. Appropriate equipment for research level plots was slow in arriving.
   5. Researchers farm uniform plots of good soil. Farmers farm complex landscapes.
   6. Researchers need to publish and often publish with data based upon the first few years of changing the cropping systems – the transitional ‘bumpy years’ of variable results.
4. Researchers are caught in historic paradigms of research methodologies, tools, extension. Perhaps also this applies to more of the population than just researchers. Technology, Internet, media have all come together to enable new paradigms, perhaps at a rate beyond the capacity or preference of current institutions.
5. To adapt to climate change and reduce emissions, agriculture has been seeking developments around the edges of conventional production systems. A larger step is needed.
6. Farmers are an adaptive species. They see opportunities of both better farming systems and the changing paradigms that can allow them to adapt to changing climates – be it gradual changes or extreme weather.
7. Farmers are a social specie. They would like to work with collaboration and support from researchers and governments.

**Is there a better way forward?**

Farmers need to be convinced with credible information and prefer to be engaged with other farmers to learn how to successfully adopt new farm practices. Farmers perceive other farmers experiences and learnings with credibility, often beyond that of researchers and academics. Farmers are willing to share but need to be enabled to help other farmers.

* Researchers need to develop new research methodologies and engage with innovative farm groups to learn the issues of scaling and systems approaches of CA and related systems.
* The private sector that supplies farm inputs, markets, finances and contract services need to be engaged to learn CA and develop new opportunities.
* Public society trusts farmer communications more than those of academics or governments. Farmers have a role to assure the public that the best farming practices are being adopted.
* Governments need to tackle the complex issues of climate change along with the need for food security and environmental sustainability. Stacking blunt, static policies will not provide long term solutions. Adaptive policies need to be creative using principles such as multi-stakeholder deliberations, enabling self-organization and social networking and promoting variation.
* Farmers can be the linkage between governments, researchers and the private industry. Farmer organizations stretch their resources efficiently to serve the needs of their groups. There are no resources left for linkages and initiatives across borders and continents.

**We conservation agriculture farmer organizations are willing to help:**

1. We are willing to spearhead synergistic collaborations with all players to design an adaptive path forward to provide overdue impetus to develop more climate smart and environmentally friendly agriculture systems that make sense to farmers.
2. We call policy makers and global world leaders in COP21 to create the conditions to develop global adoption of Conservation Agriculture:
   * sign international agreements on climate change mitigation and sustainable development of agricultural production,
   * use adequate and enabling policies consistent across geographies,
   * include incentive mechanisms for farmers organizations, based on payment for ecosystem services, as carbon offset trade mechanisms, aligned with the Sustainable Development Goals  of United Nations.

Document supported by:

European Conservation Agriculture Federation

Association pour la Promotion d'une Agriculture Durable

Confederation of American Associations for the Production of Sustainable Agriculture

Western Australian No-Tillage Farmers Association

Conservation Tillage Research Centre (China)

African Conservation Tillage Network