

Mexican Conservation Agriculture

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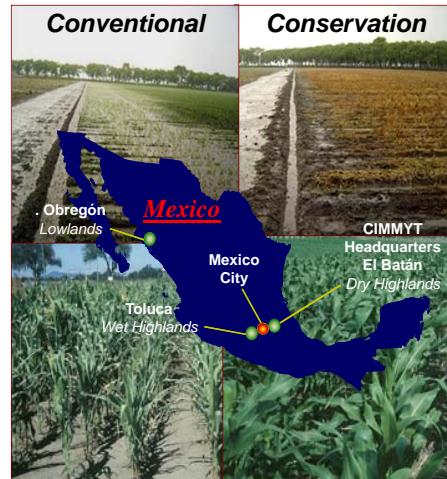
International Maize and Wheat Improvement Center



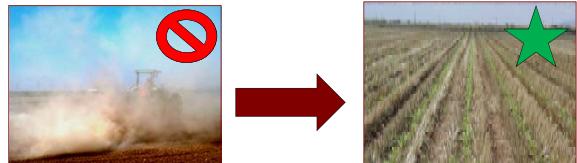
- DEVELOPMENT OF SUSTAINABLE CROP PRODUCTION STRATEGIES
 - Conservation tillage
 - Sustainable crop management
 - Resource conserving technologies
 - And now “**Conservation Agriculture**”

Goals of Conservation Agriculture

- Stabilize/reverse widespread soil degradation to enhance sustainability of natural resources land, water and air
- Enhance water use efficiency for both rain-fed and irrigated crop production systems
- Increase crop productivity through increasing time and input use efficiency
- Reduce production costs for farmers and improve family livelihoods



4 Principles for Sustaining Conservation Agriculture

1. Dramatic reductions in tillage
 - Using minimal tillage to eventual no tillage
2. Retention of crop residues on soil
 - Adequate but rational levels
 - Reduce soil erosion
 - Enhance crop and water productivity

USDA-ARS
Crop Residue Retention
3. Crop rotations
 - Proper and profitable
 - Economically viable
 - Create new options to reduce risk
4. Improvement of farmer perception
 - Farmers must perceive imminent and immediate economic gains

With widespread issues of soil degradation, agronomists need to move away from “fine-tuning” existing conventional, tillage-based crop production systems which will likely lead to small, unsustainable increments in crop improvement. Research efforts need to focus heavily on the Conservation Agriculture Principles to develop the sustainable new technologies needed by farmers.

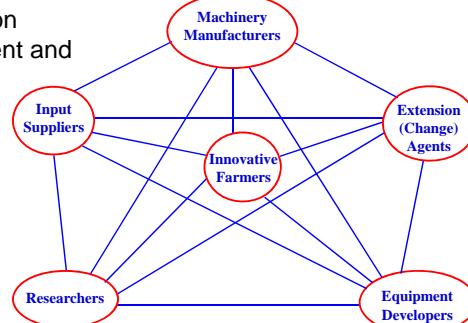
The benefits of conservation agriculture reach beyond the farmers themselves and to the average individual. Increased productivity can help reduce the cost of food. Better land utilization means less CO₂ emissions from equipment working more acres. Less land degradation will help sustain food production for generations to come. And accomplishing CIMMYT's mission of reducing world poverty and increasing global food security will ensure that we all live in a peaceful, prosperous international society. [Reference](#)

Dr. Ken Sayre, CIMMYT

Obstacles

1. Lack of affordable and appropriate equipment
2. Continuing practice of burning crop residues
3. Use of crop residue for livestock feed

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