



GLOBAL
RESEARCH
ALLIANCE

ON AGRICULTURAL GREENHOUSE GASES

CROPLANDS RESEARCH GROUP:
Canada



Conservation Agriculture Network:
Craig Drury

craig.drury@canada.ca

Conservation Agriculture Membership

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ON AGRICULTURAL GREENHOUSE GASES

- Craig Drury AAFC, Harrow, Ontario, Canada
- Mark Liebig USDA, Mandan, North Dakota, USA
- Diego, Albalos, Aarhus University, Denmark
- Denis Angers AAFC, Quebec city, Quebec, Canada
- Michel Cavigelli USDA, Maryland, USA
- Rene Dechow Inst. Agr. Climate Res., Braunschweig, Germany
- Roberta Farina & Rosa Francaviglia CREA, Rome Italy
- Hero Gollany USDA, Adams, Oregon, USA
- Henry Janzen AAFC, Lethbridge, Alberta, Canada
- Jane Johnson, USDA-ARS-NCSCRL, Minnesota, USA
- Thomas Kätterer Swedish Univ. of Agr. Sciences, Uppsala, Sweden
- Lars Munkholm Aarhus University, Denmark
- Gervasio Piñeiro, Juan Piñeiro, Tomás Della Chiesa, University of Buenos Aires, Argentina
- Charles Rice Kansas State University, Manhattan, Kansas, USA
- Pier Roggero University of Sassari, Italy
- Upendra Sainju USDA, Sidney, Montana, USA
- ... 19 members from 7 countries

Meta-analysis

- ~ 71 Peer reviewed publications included (~ 150 site years)
- - 18 countries
- - 5 BMP's
 - ✓ crop rotation
 - ✓ conservation tillage
 - ✓ cover crops
 - ✓ irrigation
 - ✓ residue management
- Datafiles sent To Diego Abalos for meta-analysis (Nov 2019)

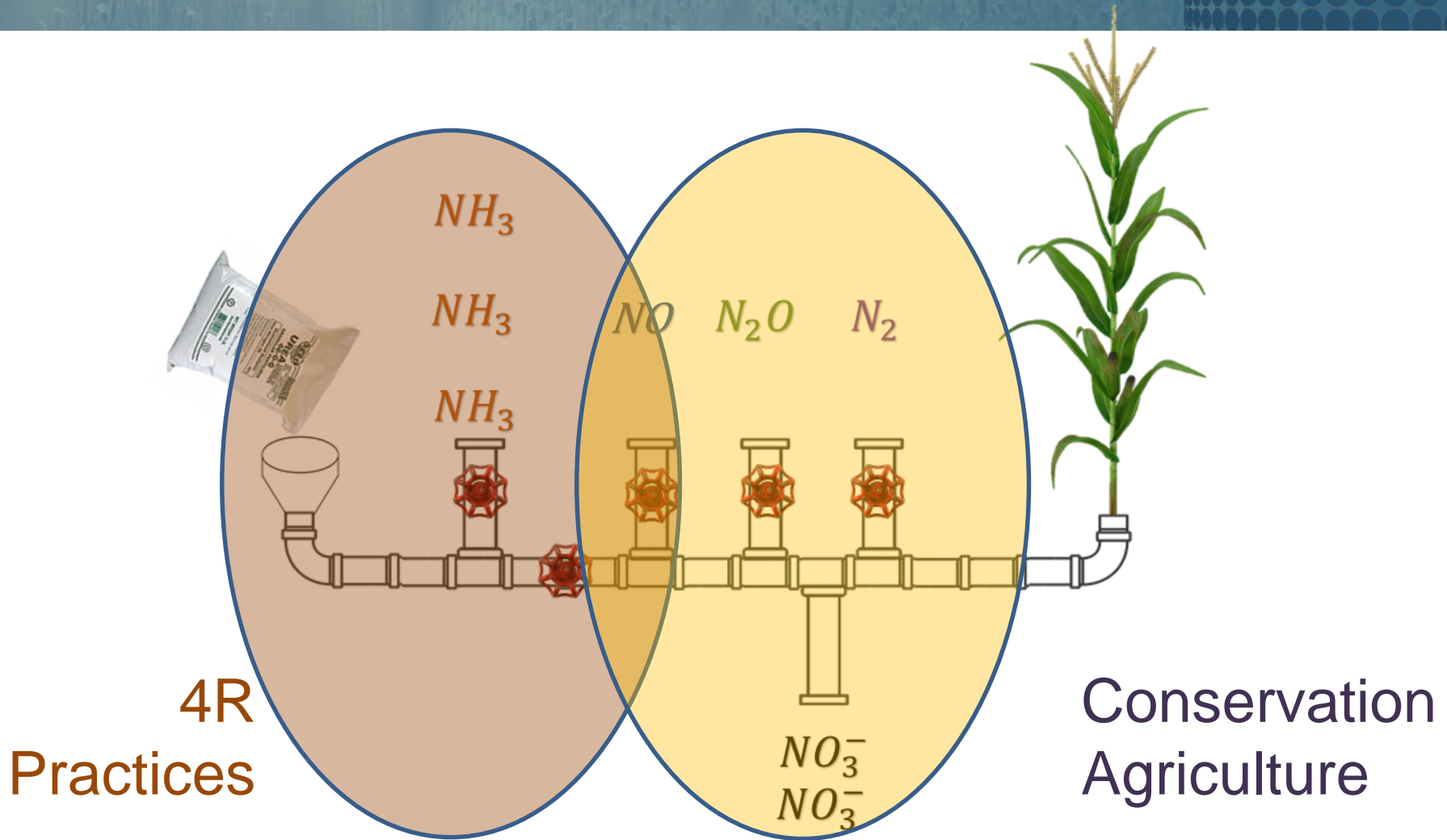
Conservation Agriculture Network Activities:

- Topical Oral session “Conservation Agriculture Practices and GHG Emissions” held at SSSA International Soil Meetings (San Diego, CA).
- Topics Included:
 - Crop rotations & tillage impacts soil N₂O emissions (Jin et al.)
 - Reducing N₂O emissions with conservation agriculture (Drury et al.)
 - Partitioning below and above ground legume residue N, fertilizer N and soil N to N₂O emissions using ¹⁵N tracer (Liu et al).
 - Soil organic matter under integrated crop-livestock forest systems (Tadini et al.).

Conservation Agriculture Network Activities:

- Topical Poster Session “Conservation Agriculture Practices and GHG Emissions” held at ASA-CSSA-SSSA International Soil Meetings (San Antonio, CA). Organized by Maysoon Mikha
- Topics Included:
 - Spatial variability in potential N₂O (Johnson et al).
 - Long-term conservation agriculture practice on soil C (Golabi et al)
 - CO₂ & Agroforestry (Oliveira et al.)
 - N₂O mitigation (Nair et al.)
 - Strip tillage effects on GHG emissions in sugarcane (Dias et al.)
 - Deep soil C (Lockhart et al.)

Combined 4R & Conservation Agriculture Approaches



Future Activities:

1. Special Issue in Peer-Reviewed Journal:

- Conservation Agriculture & GHG emissions (papers due date March 31, 2020).
- Volunteers requested for Guest Editors

2. Other suggestions?