

Agricultural Air Quality Efforts in the USDA-NRCS

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The NRCS Legacy of Conservation

*More Than 75 Years of
Helping People Help The Land*

Our goal is not just a sustainable, nutritious, abundant food supply, but also thriving ecosystems that support a diversity of life. In the next century, NRCS will not only continue to tackle familiar challenges like ensuring clean water and healthy soil, but will also rise to meet new issues, such as *clean air, clean energy, climate change, and new technology.*

Chief Dave White



2012 Air Quality Initiative (AQI)

- Final year of the 2008 Farm Bill EQIP AQ program (aka CIG-b)
 - Helps producers meet AQ compliance requirements
 - Focused on PM, and ozone precursors
 - \$37.5 million to 9 key states
 - CA received \$18.24 million
 - AZ received \$2.077 million
 - Other states: CO, IL, MT, NY, OH, PA & TX

2012 Air Quality Initiative (AQI)

■ California

- Statewide: 1,675 applications, of which 969 are deemed “High Priority”; SJV: 1,369 applications, of which 855 are deemed “High Priority”
- Most for engine replacement; avg. contract \$56,000

■ Arizona

- Targeting PM10 and ozone nonattainment region between PHX and TUS
- Variety of practices for AQ improvement

2009-2011 AQI Results

- California 2009-2011
 - 1178 engines replaced
 - 1678 tons NOx reduced → 508,000 vehicles
 - \$64 million; producer match nearly that amount
 - Seeking SJV SIP credibility for ARB farm equipment commitment for NOx reductions (5-10 tons/day)



2009-2011 AQI Results

- Focal points in Arizona

- 7 counties
- Dust control on roads (practice 373)
- Some engine replacements (practice 372)
- Dust control at some animal operations (practice 375)
- Dust (PM) and ozone precursors are major efforts
- Some odor control work at CAFOs (5 dairies)
- Cover crops and residue management



FY 2011 Regular EQIP AQ Efforts

- \$127 million nationwide targeting AQ primarily
 - Approx. 6% of \$2.1 billion total EQIP
 - States prioritize practices for their needs
 - \$25 million in CA
 - \$3 million in AZ
 - Focal points:
 - Combustion System Improvement
 - Waste Storage Facilities
 - Nutrient Management
 - Cover Crops
 - Dust Control
 - Residue Management / Conservation Tillage



FY 2011 Conservation Stewardship Program (CSP)

- Chemical drift technologies
- Smart sprayers / GPS
- Nitrogen stabilizers
- Manure injection or incorporation
- Non-burning alternatives for prunings, crop residue



Conservation Innovation Grants (CIG)

- FY11 CIGs—work getting underway
 - 52 grants, \$22.5 million
 - 8 AQ-related grants, \$4.26 million
 - Others in energy, etc.
- Special GHG CIGs announced June 2011
 - 9 grants
 - \$7.47 million
 - 24 states involved in projects

FY11 Regular CIGs: AQ Grants

- Those with specific air quality focus include:
 - Air biofiltration
 - Poultry flooring system
 - Post-anaerobic digester aerobic processing of manure solids
 - Dairy BMPs for AQ, enhancement of NAQSAT (livestock AQ web tool)

FY11 GHG CIGs

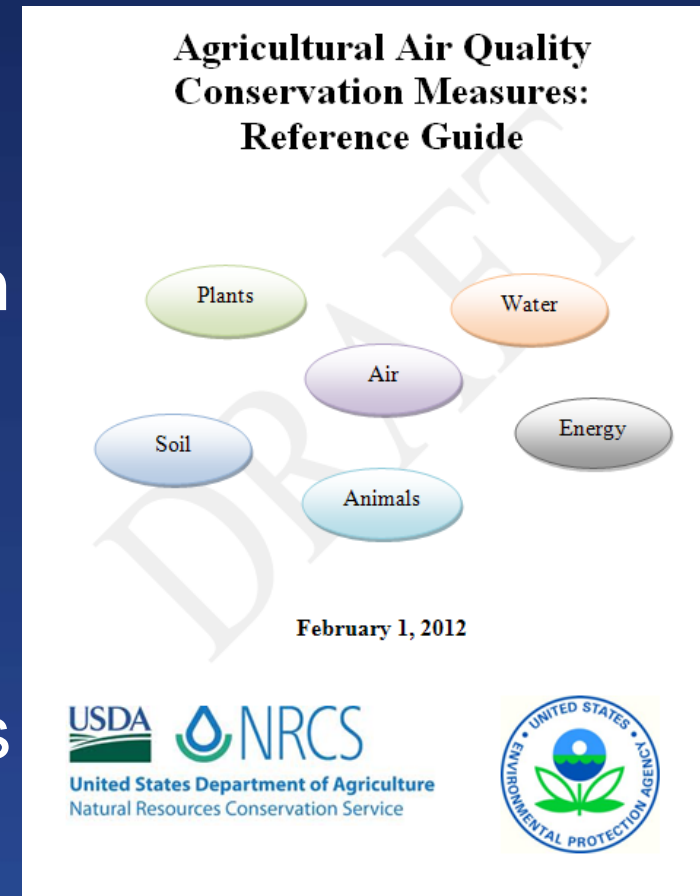
- Determine baseline GHG emissions / carbon sequestration values, and then net GHG benefits after practice(s) installed
- Establish and determine “carbon credits”; link credits to new or existing market structures
- Leverage CIG funding with \$10 million from EQIP in FY12 for producer involvement in projects
- Coordination among CIGs facilitated by AQ Team

FY11 GHG CIGs

- In addition to 9 CIGs, \$10 million from EQIP provided for GHG emissions reductions nationwide
- Direct involvement of growers in GHG-reducing practices

EPA-USDA Conservation Measures Document

- Collaborative effort to identify NRCS conservation practice standards and other conservation activities that can be used to address air emissions from agricultural sources in areas where it is needed
- Guidance to identify what tools are available and when they should be used



AQ Training Efforts

- Continued emphasis on utilizing 4 on-line air quality and atmospheric change-related courses
 - Air Quality, Climate Change and Energy course – nearly 9,000 NRCS employees have completed
 - Nearly 500 employees have completed each of the other 3 courses
- These 4 courses received an ASABE Educational Aids award last year

AQ Training Efforts

- Engine Retrofit webinar to provide information to NRCS state AQ contacts
- FY12
 - Development of the NRCS Air Quality and Animal Agriculture on-line course
 - On-site training for IL NRCS
 - Assisting state NRCS with their AQ training

Other NRCS Air Quality Efforts in FY12

- Increasing adoption of new AQ practice standards
 - Air Filtration and Scrubbing
 - Combustion System Improvement
 - Dust Control on Unpaved Roads and Surfaces
 - Dust Control from Animal Activity on Open Lot Surfaces



NRCS & Climate Change Adaptation

- Response to USDA Regulation 1070-001 of June 2, 2011, implementing sections of Executive Order 13514 issued on October 5, 2009: Federal leadership in environmental, energy, and economic performance (CEQ-driven)
- NRCS Climate Change Coordination Team formed and active; developing strategy for determining vulnerabilities to climate (change, variability), and adaptation path--examining impacts to agriculture and natural resources
- Report due to USDA and CEQ by June, 2012

GHG, Air Pollution, Energy Integration in NRCS Tools

- COMET-2.0 is proficient at evaluating row crops, range/pasture, agroforestry and orchard/vineyard scenarios
www.comet2.colostate.edu
- The forthcoming tool COMET-Farm™ will perform all of the COMET-2.0 emissions evaluation tasks as well as livestock/manure management and on-farm energy use emissions
- We have also developed a publicly available tool that estimates emission savings from on-farm energy savings. National training sessions have been held for Technical Service Providers, state EQIP program managers, state energy contacts, and state conservation engineers

COMET-Farm

- Will likely be released prior to the next AAQTF (Spring/Early Summer)
- There seems to be both domestic and international interest in the capabilities of this tool (EU, California, US)
- One GHG CIG recipient is testing this tool and comparing operations with DNDC

Integrating Air Quality and Energy Conservation

- NRCS has adopted Energy as a resource concern in addition to SWAPA
- Ambient air pollutants, GHGs, and energy are being integrated due to the interconnectivity
- On-farm energy audits and other energy conservation measures are required to evaluate air and GHG emissions

Questions?

