



The
Fertilizer Institute
Nourish, Replenish, Grow

“A Look at West, Texas”

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West Fertilizer Co. - West, Texas

- On April 17, 2013 approximately 20-30 tons of ammonium nitrate exploded
- Result was 15 dead (12 first responders and 3 civilians) and hundreds injured
- An apartment complex, a nursing home, three schools and hundreds of homes were damaged or destroyed beyond repair
- Estimates of over \$100 million in damage



West, Texas Home Assessment Map

4/26/2013 11:39:45 AM



Exhibit #2

WORKING Diagram 4/29/13 (DRAFT)
Distances are ESTIMATES

- = Fertilizer Bin
- = Exterior Door



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Government Response



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Legislative/Regulatory

- June 27, 2013, Senate Environment and Public Works Committee holds oversight hearing
- Aug. 1, 2013, House Homeland Security Committee holds oversight hearing
- Aug. 1, 2013, President Obama issues Executive Order 13650, *Improving Chemical Facility Safety and Security*
- Aug 30 – EPA, OSHA and ATF issue updated chemical advisory that provides information on the hazards of ammonium nitrate (AN) storage, handling and management
- Texas State Legislature has held three hearings
- Additional Capitol Hill hearing(s) expected before end of year

Executive Order 13650, *Improving Chemical Facility Safety and Security*

- Develop plan to improve coordination with state, local and tribal partners
- Enhance Federal coordination
- Enhance information collection and sharing
- Develop a plan for modernizing key policies, regulations and standards (EPA's Risk Management Program (RMP) and OSHA's Process Safety Management (PSM) for Ammonium Nitrate)
- Convene stakeholder meetings to identify and share best practices to reduce safety and security risks

Fertilizer Industry Response



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May 8, 2013



Compliance Assessment Tool

The fertilizer industry shares the public's concerns about safe operations of fertilizer facilities. The West, Texas agriculture retail facility explosion has affected the consciousness of Americans, and public support is high for increased facility inspections, transparency and demonstrated community safety.

The Asmark Institute in Owensboro, Ky., has developed an on-line **Compliance Assessment Tool** for agriculture retail facilities to help control risk and support the continual improvement of a retail dealer's compliance effort.



To complete the Assessment Tool:

Step 1: Access the tool by visiting: www.asmark.org/ComplianceAssessmentTool

Step 2: Verify your facility information.

Step 3: Describe your scope of operations.

Step 4: Download and print your document.

Step 5: Complete the worksheet.

Periodic use of this tool will help control risks and support the compliance effort at retail agrichemical facilities for the express purpose of preserving life, property and the environment.



Fertilizer Code of Practice

May 30, 2013 - TFI and ARA announced partnership to develop a Fertilizer Code of Practice for agricultural retailers

- Program will focus on crop nutrient storage and handling practices
- Assure facilities involved in crop nutrient storage and handling are operating in accordance with federal laws and regulations
- Program will be phased in over time
- Initial focus will be on the most pressing crop nutrient products and the part of the distribution chain where storage and handling issues have surfaced.

Secure Handling of Ammonium Nitrate Act

- TFI approached Congress in 2005 to seek traceability regulations for AN
- Act signed into law in December 2007
- Advanced Notice of Proposed Rulemaking (ANPR) was issued in October 2008
- Notice of Proposed Rulemaking (NRPM) was issued in August 2011.
- June 14, 2013 TFI sent letter to DHS Secretary Napolitano encouraging final rule

“Subtitle J—Secure Handling of Ammonium Nitrate

“SEC. 899A. DEFINITIONS.

“In this subtitle:

“(1) AMMONIUM NITRATE.—The term ‘ammonium nitrate’ means—

“(A) solid ammonium nitrate that is chiefly the ammonium salt of nitric acid and contains not less than 33 percent nitrogen by weight; and

“(B) any mixture containing a percentage of ammonium nitrate that is equal to or greater than the percentage determined by the Secretary under section 899B(b).

“(2) AMMONIUM NITRATE FACILITY.—The term ‘ammonium nitrate facility’ means any entity that produces, sells or otherwise transfers ownership of, or provides application services for ammonium nitrate.

National Fire Protection Association (NFPA)

- The fertilizer industry has served on the NFPA's Technical Committee on Hazardous Chemicals (NFPA 400) for many years
- NFPA has had a code (NFPA 400) for the storage and handling of AN since 1965
- The fertilizer industry strongly supports and encourages compliance with NFPA 400 for ammonium nitrate
- Currently working with NFPA to update code

Additional Safety and Security Efforts

- MyRMP
- Transportation Community Awareness and Emergency Response (TRANSCAER)
- Voluntary Security Vulnerability Assessment (SVA)
- Security Educational Materials – “Be Aware for America” and “America’s Security Begins with You”
- National Agronomic Environmental Health and Safety School

BIG TAKEAWAYS

1

- SAFETY CONCERNS SURROUNDING THE FERTILIZER INDUSTRY STILL NEED TO BE ADDRESSED
- Elites have not forgotten the Texas Explosion, and they do not think the industry is particularly safe
- There is strong support for additional regulations
- As a result, another high-profile negative story could be a tipping point

2

- A PROACTIVE CAMPAIGN AROUND CONCRETE, INDUSTRY-LED IMPROVEMENTS IN SAFETY CAN SIGNIFICANTLY BOOST THE INDUSTRY'S REPUTATION
- There are a number of proactive steps the industry could take that would boost its reputation
- Educating people with specifics about the industry's safety measures is effective in rebuilding the reputation

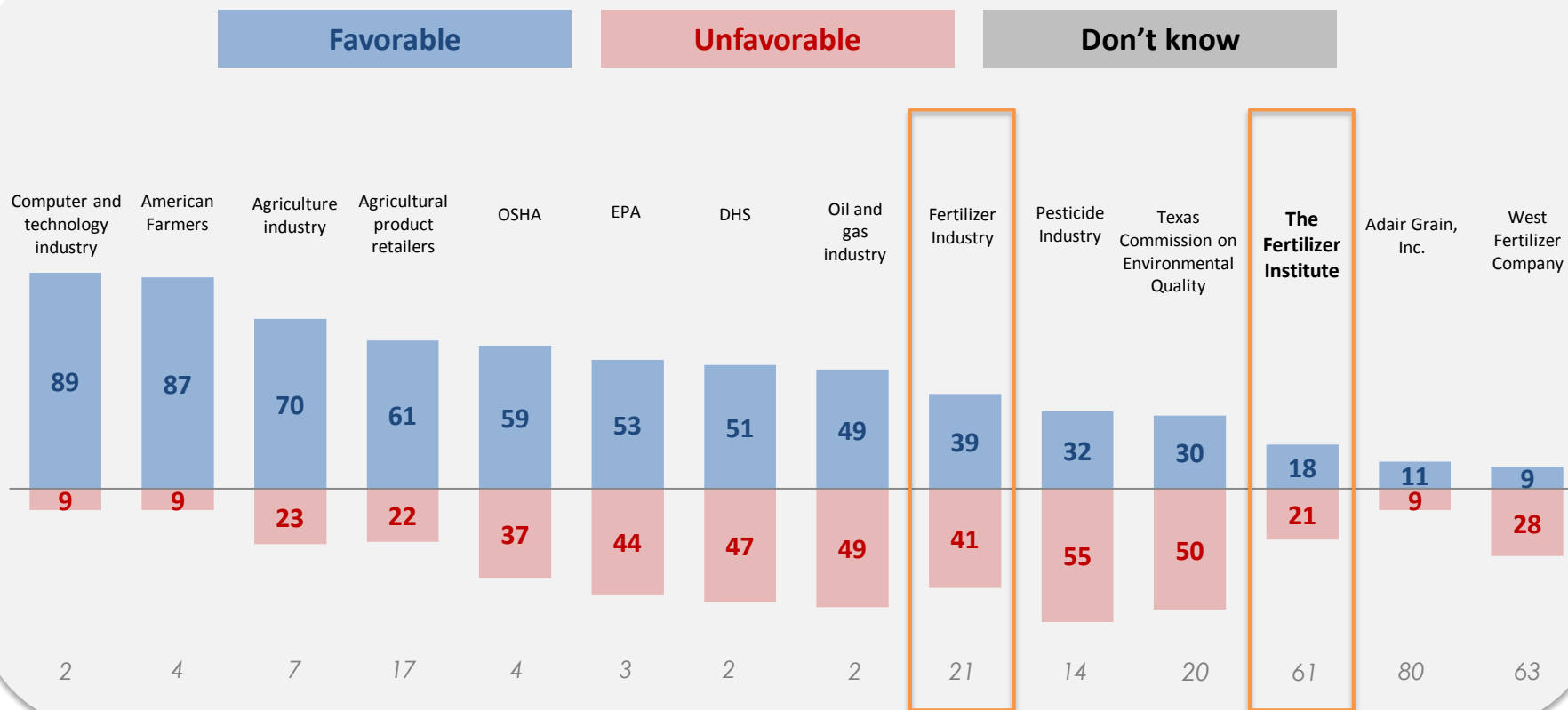
The Industry has an unhealthy reputation

In DC, Missouri and Texas, Elites have become more negative toward the industry since April

Do you have a very favorable, somewhat favorable, somewhat unfavorable, or very unfavorable view of the fertilizer industry? Showing Baseline Favorability	All Elites Sept	DC Elites		MO Elites		TX Elites		AR Elites Sept
		April	Sept	April	Sept	April	Sept	
TOTAL FAVORABLE	39	39	34	52	43	39	34	44
TOTAL UNFAVORABLE	41	37	43	33	32	28	49	37
Don't know	21	24	24	15	25	32	17	19

Favorability of industries and organizations

Do you have a very favorable, somewhat favorable, somewhat unfavorable, or very favorable view of these organizations or people? *Showing All, Baseline Favorability*



RECOMMENDATIONS

1

- **Position the industry as taking steps to improve safety.** Scrutiny from Capitol Hill is currently mild. There is space to communicate with key audiences about the industry's efforts and commitment to safety in order to help insulate it from regulation.
-

2

Consider taking more voluntary actions that address safety. The industry taking additional voluntary actions to boost safety highly popular. Doing so could help improve the industry's reputation while boosting its image with key audiences.

3

- **Communicate specifics.** The more a safety message is backed up with facts and figures, the more it is seen as credible. The Compliance Tool message provides a particularly effective example of a detailed program that illustrates the industry's commitment to safety.

4R Update: Education

- 10 modules available (free) covering “Site Specific Nutrient Management” relative to 4R
- Addresses fertility, economics & environment
- Covers:
 - Fertility Overview
 - N, P, K
 - S, Mg & Ca
 - Micronutrients
 - pH & Lime
 - Soil sampling
 - Economics & Environment

<http://www.nutrientstewardship.com/4r-training>



WHAT ARE THE 4RS **IMPLEMENT THE 4RS** **4R TRAINING** **4R NEWS**

Home > 4R Training > 4R Educational Modules:Site Specific Nutrient Mangement

4R EDUCATIONAL MODULES:SITE SPECIFIC NUTRIENT MANGEMENT

The Fertilizer Institute (TFI), United States Department of Agriculture Natural Resources Conservation Service (USDA/NRCS), International Plant Nutrition Institute (IPNI), and Iowa State University (ISU) worked together to bring expertise and coordinated outreach in an effort to help producers increase implementation of the 4Rs. Applying the right nutrient source, at the right rate, at the right time, in the right place is essential to nutrient stewardship and is the core of the 4Rs. To achieve this goal, this team of experts has created the following learning modules. An essential component of these learning modules is to provide information about the basic components of soil fertility and nutrient best management practices. Topics include an explanation of the key components of plant nutrition in relation to selection of fertilizer best management practices addressing the 4Rs. The modules address the macro- and micronutrients as well as soil sampling and integrated economic and environmental issues relative to nutrient management.

The materials included in these modules were authored by Agustin Pagan, John Sawyer, and Antonio Mallarino; Iowa State University Department of Agronomy. Materials include a chapter and an automated presentation for each topic.

INTRODUCTION TO THE 4RS AND THE EDUCATIONAL MODULES

4R nutrient stewardship for fertilizer best management practices is an approach that considers economic, social, and environmental dimensions of nutrient management and is essential to sustainability of agricultural systems. While the concept is simple, implementation requires knowledge-intensive and site-specific nutrient management. Providing educational materials to stakeholders will help increase the adoption and implementation of the best management practices that are right for crop production systems.

Before diving into the educational modules, take a few minutes to read the introduction to 4Rs to better understand how fertilizer best management practices fit within this framework.

[VIEW THE INTRODUCTION CHAPTER >>](#)

OVERVIEW OF SOIL FERTILITY, PLANT NUTRITION, AND NUTRITION MANAGEMENT

[START MODULE >](#)

This module will provide an overview of important concepts for soil fertility, plant nutrition, and nutrient management in agronomic systems for profitable and environmentally safe crop production. General concepts and management practices will be presented.

[READ MODULE BACKGROUND](#)

NITROGEN

[START MODULE >](#)

Nitrogen is an essential nutrient for crop growth and production. However, unneeded application or poor efficiency results in increased production cost and lost economic return. In addition, nitrogen management has environmental importance since losses from agricultural systems have been identified as likely contributors to elevated surface or groundwater nitrate concentrations, impairment of freshwater bodies, and hypoxia of coastal waters. This module will cover important concepts of nitrogen management in agronomic systems for profitable and environmentally safe crop production.

[READ MODULE BACKGROUND](#)

PHOSPHORUS

[START MODULE >](#)

Phosphorus is an essential element for plant growth and is needed in adequate supply for profitable crop production. However, phosphorus application to soils in excess of crop needs

4R Update: Research

- Currently over \$1.2M
- Two RFPs released in October
 - BMP meta-analysis (Dec. 15)
 - Research & Demo (Jan. 31)
 - Review and selection by Technical Advisory Group & Fund Mgmt. Committee
- Additional RFP release in 2014
- www.nutrientstewardship.com
 - Under the “Funding” link



The 4R Nutrient Stewardship Research Fund* has been established to measure and evaluate the economic, social and environmental impacts of using the **right** fertilizer source at the **right** rate at the **right** time and in the **right** place.

Contributors to the fund help ensure science is at the forefront of using nutrient stewardship to improve fertilizer efficiency and productivity and to benefit the environment.

Further information about the fund, current requests for proposals and details for contributing can be found at nutrientstewardship.com/funding.

TFI, CFI and IPNI Member Contributors

Agricen
AGRI Services of Brunswick, LLC
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American Plant Food Corporation
AMEROPA NA
Calamco
California Sulphur Company
Cargill AgHorizons US
Cavendish Agri Services LTD
CF Industries, Inc.
Chaleur Fertilizers LTD
Chemical Dynamics Inc.
CHS Inc.
Compass Minerals
Cooperative Producers Inc.
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Rentech Nitrogen GP, LLC
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Thank you



for your contributions
to the 4R Nutrient Stewardship
Research Fund.

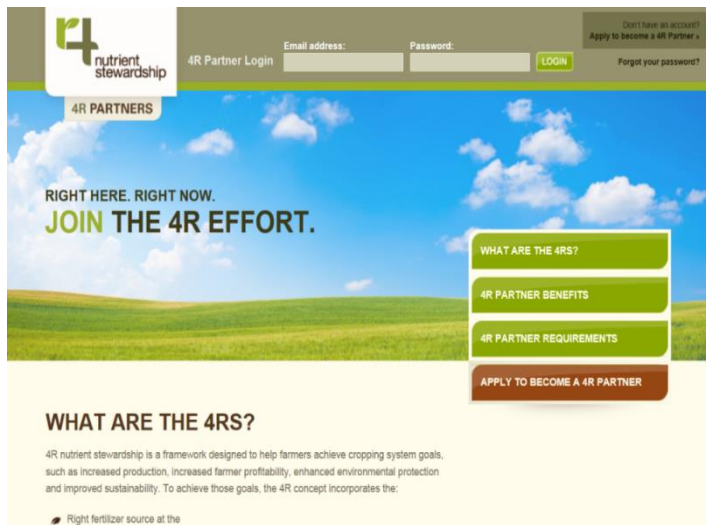
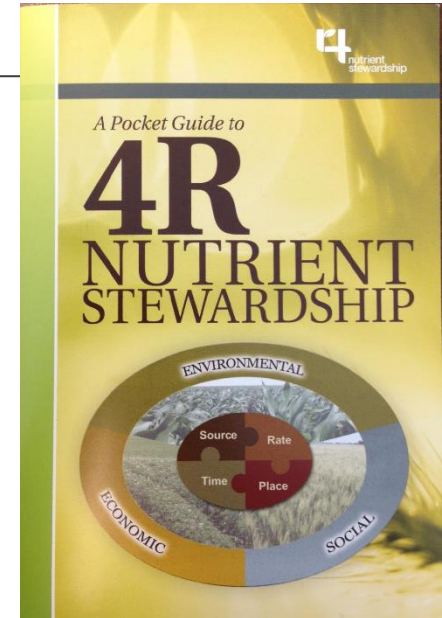


This advertisement was paid for by The Fertilizer Institute (TFI).
Contributions received from all organizations listed as of November 12, 2013.

*The fund was created by The Fertilizer Institute (TFI), the Canadian Fertilizer Institute (CFI) and the International Plant Nutrition Institute (IPNI).

4R Update - Outreach

- Become a 4R Partner:
www.partners.nutrientstewardship.com
-  1fertilizer
-  @4Rnutrients
- 4R Quarterly Newsletter: sign-up at
www.nutrientstewardship.org
- 4R Pocket Guide



4R Update: Advocate Program



Water Quality

- Numeric Nutrient Criteria – water is impaired if exceeds concentration of N & P;
- Narrative Nutrient Criteria – nutrients must not be excessive enough to cause adverse ecological harm;
- Total Maximum Daily Load – how many nutrients can be delivered to a specific waterbody. A TMDL is triggered after a waterbody is listed as “impaired.”

Three Major Waterbodies

- Florida – Numeric (NNC)
 - Environmental groups sue EPA over NNC;
 - Finally, years later, EPA and Florida agree on NNC criteria established by Florida;
 - Florida Governor signs legislation allowing State to develop NNC.
- Chesapeake Bay (TMDL)
 - EPA can establish a TMDL but cannot tell a state how to implement;
 - Farm Bureau sued EPA because it was felt EPA told the Bay how to “implement”;
 - Judge rules in favor of EPA;
 - Farm Bureau, TFI, et al appealing.

Waterbodies (cont)

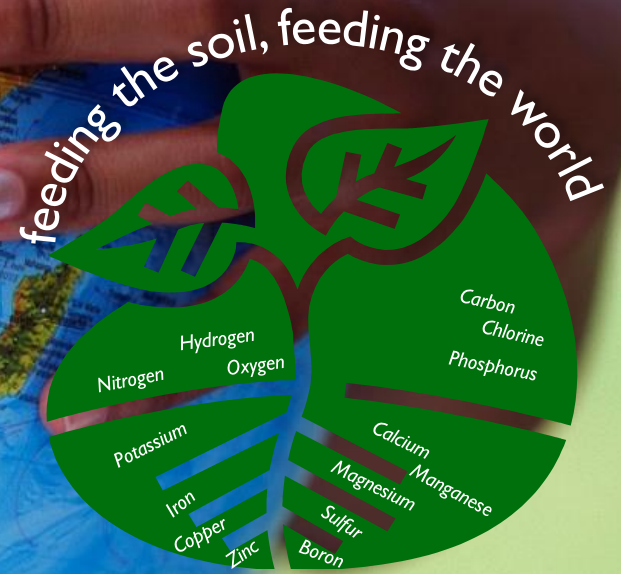
- Mississippi River Basin – numeric (NNC)
 - Environmental groups petition EPA for federal NNC;
 - EPA denies petition sighting state preeminence, administrative burden, existing efforts;
 - Court determines EPA must craft a “formal” response to petition;
 - Last week, EPA filed an appeal on the court ruling;
 - TFI is supportive of EPA in this case and the final decision will set a path forward for other federal NNC.

Nutrients For Life Foundation



PARTNERSHIP VISION

*A multi-year middle school engagement program that provides innovative strategies to highlight the importance of **soil, soil nutrients** and **soil science** to **sustainable global plant and crop growth***



Partnership for Digital Fertilizer Education



EXPAND REACH: Advance understanding among students nationwide about plant-soil connections and the importance of soil nutrients to healthy plant growth

EVOLVE MESSAGING: Explore concepts related to the future of agriculture and its role in providing *nutrition and sustenance to the world's growing population*

HEIGHTEN ENGAGEMENT: Extend the success of the *Nutrients for Life* curriculum by providing cutting-edge, educational and dynamic multimedia content designed to engage 21st century classrooms





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Thank You

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