



Illinois Fertilizer & Chemical Association
Supply • Service • Stewardship

FERTILIZER'S ROLE in AGRICULTURE

The Fertilizer Institute
Nourish. Replenish. Grow

The safe rail transport of fertilizer *is critical for the production of* food, feed, fuel & fiber.

Fertilizer major crop nutrients are nitrogen, phosphorus and potash – all naturally occurring elements in the environment – which are “fed” to plants and crops for healthy and abundant food production. Crops need nutrients to grow and be productive – just like humans.

The world’s population is 6.5 billion and growing. Using fertilizers in an agronomically and environmentally sensitive way is critical for our planet’s increasing need for food, feed, fuel and fiber.

Ammonia is the most economical and efficient source of nitrogen for most farmers and is the primary ingredient in most all nitrogen fertilizers. Additionally, it is an essential ingredient in many finished phosphate fertilizers. Ammonia is transported by rail, truck, barge or pipeline from the production site to a fertilizer terminal or to a fertilizer dealer or farm cooperative for formulation into other fertilizers or direct application in the fields.

THE MAJORITY OF AMMONIA IS TRANSPORTED BY RAIL.

52,116 SHIPMENTS IN 2005 - APPROXIMATELY 4.2 MILLION TONS OF AMMONIA



NITROGEN (N)

is a primary building block for all organisms. It is essential to making proteins, helps keep plants green and is a critical component of soil structure.

COMES FROM THE AIR



PHOSPHORUS (P)

is found in every living cell. Phosphorus is a component of DNA and it also plays vital roles in capturing light during photosynthesis, helping with seed germination, and helping plants use water efficiently. Plants also use phosphorus to help fight external stress and prevent disease.

COMES FROM ANCIENT SEA LIFE



POTASSIUM (K)

is essential to the workings of every living cell. It plays an important role in plant's water utilization and also helps regulate the rate of photosynthesis. Other aspects of plant health influenced by potassium include the growth of strong stalks, protection from extreme temperatures, and the ability to fight stress and pests such as weeds and insects.

COMES FROM EVAPORATED OCEANS



TFI AND IFCA SUPPORT EFFORTS TO ENSURE THE SAFE AND SECURE TRANSPORTATION OF ANHYDROUS AMMONIA.

TFI AND IFCA SUPPORT THE CONTINUED IMPLEMENTATION OF THE RAILROADS' COMMON CARRIER OBLIGATION.

TFI AND IFCA DO NOT SUPPORT SHIFTING THE LIABILITY FROM THE CARRIER TO THE SHIPPER; TRANSFERRING LIABILITY DOES NOT CREATE AN INCENTIVE FOR THE RAILROADS TO RUN SAFER OPERATIONS.

TFI AND IFCA SUPPORT THE RAILROADS' REQUEST TO CONGRESS FOR A TAX CREDIT DIRECTED TOWARD INVESTMENTS IN FREIGHT RAIL INFRASTRUCTURE, BUT ASK THAT THE NEEDS OF SHIPPERS ALSO BE TAKEN INTO CONSIDERATION.

The railroads are asking Congress to relieve them of their common carrier obligation or to limit their liability in the event of an accident.

TRANSFERRING LIABILITY DOES NOT CREATE AN INCENTIVE FOR THE RAILROADS TO RUN SAFER OPERATIONS.

The Association of American Railroads has been testifying before Congress that 2006 was the safest year for railroads based on the three most commonly cited rail safety measures – the train accident rate, the employee casualty rate and the grade crossing collision rate – and that rail transportation remains the safest way to carry chemicals such as anhydrous ammonia. Nevertheless, railroads argue that the risk associated with the transportation of toxic-by-inhalation chemicals is too great for them to carry. They have asked to be relieved of their common carrier obligation or to be protected by a liability cap.

The majority of ammonia is transported by rail. If the railroads are relieved of their common carrier obligation, switching from rail to truck transportation

of ammonia will increase the volume of hazardous materials transported on our nation's highways.

It would take four truck cargo tanks to deliver the same amount of ammonia that can be carried in one rail tank car. There are not enough qualified drivers or cargo tanks to support the increased truck shipments.

The historically high safety record of anhydrous ammonia transport by rail has been achieved over the years by the fertilizer industry, the railroads and tank car manufacturing and leasing companies working in a close cooperative effort. TFI, IFCA and their members rely on the railroads to transport ammonia to our farmer customers and we hope to continue to work with them to identify ways to enhance the safety of rail transport.

Rail transportation is a *safe* way to transport anhydrous ammonia.

One rail tank car transports the same as four truck cargo loads.



shippers, carriers & federal agencies to promote the safe and secure rail transportation of ammonia.

Railroads are concerned by the liability they face in the event of an accident involving toxic-by-inhalation chemicals. To limit their risk, they are aggressively increasing their rates to try and force hazardous material products off of their lines, at the expense of our nation's agriculture economy, and have indicated that they will continue to do so until the fertilizer industry interrupts all rail shipments of ammonia.

Since 2005, some freight rates on some carriers have increased by as much as 400 percent. Alongside these efforts, the Association of American Railroads has also recommended that the current anhydrous ammonia fleet be replaced with heavier cars. This dramatic change in the design of rail cars would impose an unbearable added cost for the fertilizer industry and its farmer customers.

Many fertilizer facilities were built at current locations based on their ability to receive fertilizer by rail and do not have the infrastructure in place to handle deliveries from heavier cars. They would suffer from the costs and time

frame associated with track modifications. Moreover, the current estimated cost of the heavier cars, which hold only approximately 87 percent of the product transported by current "best in class" ammonia cars, is 160 percent higher than new ammonia cars. TFI and IFCA have been working with the Federal Railroad Administration in an effort to reduce ton-miles traveled of anhydrous ammonia and develop performance based specifications for an improved tank car design. Performance-based specifications for a car design should be reviewed after the final results of the Volpe Study, which was mandated by Congress to develop a model which will quantify the relevant dynamic forces acting on railroad tank cars in an accident scenario.

Anhydrous ammonia is an indispensable tool that makes American farmers the most productive in the world. Stable shipping prices help America's fertilizer industry and farming community plan ahead for their fertilizer season. If these rate increases continue, the burden will be borne by America's farmers.

"I'm not sure what homeland security means, but producing a bounty of home-grown food that meets exacting regulatory standards with the use of the most efficient nitrogen products available, thereby allowing us to very efficiently feed fellow Americans and people around the globe, should surely rank as something worthwhile in the equation."

FRED MORSCHECK | THE MCGREGOR COMPANY

TRANSPORTING ANHYDROUS AMMONIA



RAIL TANK CAR

- Each rail tank car can carry 80 tons of ammonia.
- In 2005, there were about 52,116 rail shipments of anhydrous ammonia, delivering approximately 4.2 million tons of anhydrous ammonia.
- TFI members own or lease approximately 6,000 tank cars.



TRUCK CARGO TANK

- Each truck cargo tank carries 20 tons of ammonia.
- In 2005, truck cargo tanks carried approximately 4 million tons of product on the nation's highways.
- Each additional truck cargo tank increases congestion on our nation's roads and the risk of accidents.



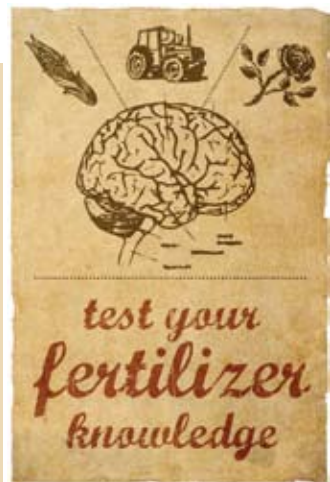
PIPELINE

- In 2005, approximately 3.7 million tons of anhydrous ammonia was transported by pipeline.
- There are only two ammonia pipelines – one runs from Texas to Minnesota and the other from Louisiana to Nebraska and Indiana.



BARGE

- In 2005, approximately 0.9 million tons of anhydrous ammonia was transported by barge.
- Only few retail locations are served by the river system.



1 WHAT ARE THE TOP THREE FERTILIZER-UTILIZING U.S. CROPS?

Corn, wheat and soybeans.

2 HOW MUCH FERTILIZER DOES IT TAKE TO PRODUCE A BUSHEL OF CORN?

Depending on the type of cropping system used, typically 1.5 to 2 pounds of fertilizer nutrients.

3 HOW MUCH FERTILIZER DOES IT TAKE TO PRODUCE A BUSHEL OF WHEAT?

Depending on the type of cropping system used, typically 2.5 to 3.5 pounds of fertilizer nutrients.

4 HOW MUCH FERTILIZER DOES IT TAKE TO PRODUCE A BUSHEL OF SOYBEANS?

Depending on the type of cropping system used, typically 1.0 to 1.5 pounds of fertilizer nutrients.

5 WHY IS FERTILIZER IMPORTANT TO AGRICULTURE PRODUCTION?

Humans, animals and plants rely on a safe, healthy supply of food and nutrients like nitrogen (N), phosphorus (P) and potassium (K) for proper growth and development. Fertilizer is the 'food' that plants – from corn and wheat to pumpkins and apples – need to produce a healthy and bountiful crop. All crops require nutrients in one form or another.

6 HOW IS AMMONIA TRANSPORTED FROM THE POINT OF PRODUCTION TO THE POINT OF USE?

Ammonia is transported by rail, truck, barge and pipeline. The largest volume of ammonia is transported by rail tank cars, followed by truck, pipeline and finally by barge.

7 HOW MANY BUSHELS OF CORN CAN ONE RAIL TANK CAR OF AMMONIA PRODUCE?

One rail tank car of anhydrous ammonia produces approximately 128,000 bushels of corn, which can be used to produce 345,000 gallons of ethanol or to feed 1,600 head of beef cattle.

8 HOW MUCH AMMONIA IS APPLIED TO AMERICA'S FARMLAND?

In each of the last three years, the United States has used an average of 20 million tons of ammonia. Of this total, approximately 14 million tons are used for agriculture and six million are used in industrial applications. Specifically, in 2005, 3.8 million short tons were used for direct application in the field. The nation's current level of crop production could not be sustained today without the use of direct application ammonia.

9 HOW DOES THE HEAVIER TANK CAR COMPARE WITH CURRENT ONES?

The proposed heavier tank car, 286,000 pounds, compared with the current tank car weight of 263,000 pounds, would have adverse effects on rail operations. According to a report published in 2005, at least 38 percent of the nation's shortline railroads cannot handle the heavier cars.

10 WHAT ARE THE TOP FIVE STATES THAT CONSUME AMMONIA IN DIRECT APPLICATION TO THE FIELD?

Illinois, Iowa, Kansas, North Dakota, Indiana



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1201 East Bell Street | P.O. Box 1326 | Bloomington, IL 61701 | TEL (309) 827-2774 | FAX (309) 827-2779 | www.ifca.org
THE ILLINOIS FERTILIZER & CHEMICAL ASSOCIATION REPRESENTS THE CROP PROTECTION, INPUT AND SUPPLY INDUSTRY.



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820 First Street, N.E., Suite 430 | Washington, D.C. 20002 | TEL (202) 962-0490 | FAX (202) 962-0577 | www.tfi.org

TFI SERVES TO PROMOTE AND PROTECT THE FERTILIZER INDUSTRY, REPRESENTING THE PUBLIC POLICY, COMMUNICATION AND STATISTICAL NEEDS OF PRODUCERS, IMPORTERS, WHOLESALERS AND RETAILERS OF FERTILIZER, AS WELL AS THOSE COMPANIES THAT PROVIDE VITAL SERVICES TO THE FERTILIZER INDUSTRY.