

# 4Rs OF NUTRIENT STEWARDSHIP

Economically, Environmentally & Socially Sustainable Crop Nutrition

The 4Rs promote best management practices (BMPs) to achieve cropping system goals while minimizing field nutrient loss and maximizing crop uptake.

## 4R Principles of Nutrient Stewardship



**RIGHT SOURCE**  
Matches fertilizer type to crop needs.



**RIGHT RATE**  
Matches amount of fertilizer to crop needs.



**RIGHT TIME**  
Makes nutrients available when crops need them.



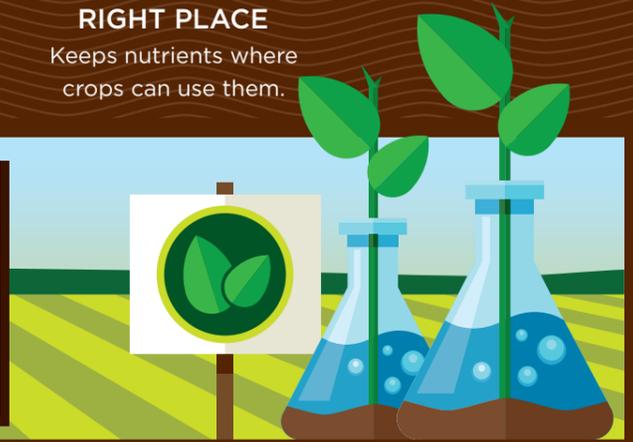
**RIGHT PLACE**  
Keeps nutrients where crops can use them.

## The 4Rs—Guided by Science, Proven by Research

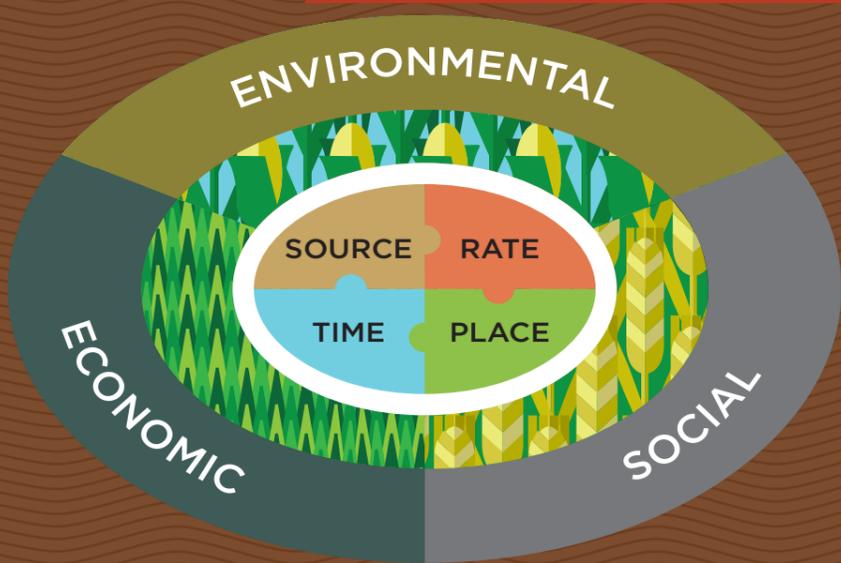
The 4R Research Fund was established by contributions from fertilizer industry members and stakeholders.

### \$7,000,000 COMMITMENT

The Research Fund is an industry-funded effort committing **\$7 million** to 4R research. A portion of this money has already been raised and implemented in initial research projects.



## IMPLEMENTING 4Rs ON THE FARM



### STEP 1:

Identify farm-specific **economic**, **social** and **environmental** goals that the cropping system objectives should address.

**STEP 2:** Select BMPs that are specific to the grower's goals, soil, climate and cropping system.

**STEP 3:** Integrate BMPs for all goals and adjust as needed.

**STEP 4:** Document the 4R nutrient stewardship plan.

### GOALS

Although goals will vary among farm operations and even among fields, the following are commonly identified grower goals:

- Improve net farm income and regional economic development.
- Improve the quality of farm family housing, diet and education.
- Reduce losses of nutrients to the environment.

## Nutrient Stewardship Across the Nation

### 4R STATE EFFORTS

Several states are helping lead the way for nutrient stewardship by developing governing methods such as certification programs, codes of practice and sustainability programs. State by state, 4R BMPs are gaining ground in local communities through demonstration and outreach efforts.

### 4R ADVOCATE

Each year the Nutrient Stewardship 4R Advocate program recognizes outstanding agriculture retailers and farmers dedicated to sustainable crop nutrition. These advocates travel the country educating local communities about the 4R principles as well as promoting the benefits of sustainable farming to the general public.

### 4R EDUCATION

Industry partners have come together to help producers learn more about sustainable farming. These partners have developed webinars, learning modules and online interactive training to provide essential information about the basic components of soil fertility and nutrient BMPs as they pertain to implementation of the 4Rs.

## 4Rs & THE INDUSTRY

### OUR PARTNERS

Over 90 U.S. organizations are embracing 4R nutrient stewardship and are working to bring you the most current information about fertilizer best management practices. These partners include conservation groups, agriculture equipment manufacturers, agriculture retail companies, fertilizer companies and other various agricultural stakeholders.



### SUSTAINABILITY

The underlying aim of sustainable agriculture is to increase economically viable food production while retaining the ecological integrity of food systems. The fertilizer industry's engagement with Field to Market allows us to collaborate with stakeholders across the agricultural supply chain.

