

# THE STORY BEHIND THE DIAGRAM

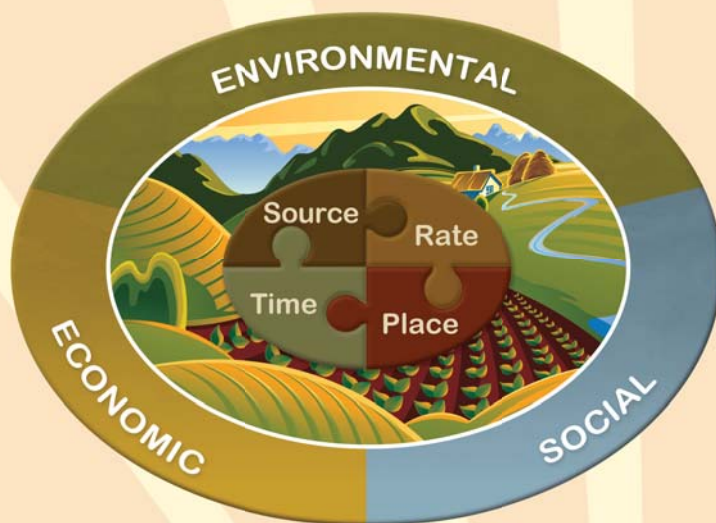
The 4R oval has become one of my favorite diagrams. In one glance, it conveys a rich vision. It depicts both the simplicity and the complexity of the responsible management of plant nutrition. It shows the benefits to the human family through impacts on abundant food, healthy soil, clean water, and fresh air.

The diagram places the 4Rs in the center of an agricultural ecosystem. The three dimensions of sustainability surround it. The intent is to suggest that what we define as “right” for each nutrient application is the combination of source, rate, time and place that improves the sustainability of the cropping system. That combination is specific to each field, each farm, and each regional climate.

While the 4Rs form the core focus, the sustainability of the cropping system depends just as strongly on crop, soil and pest management practices as well. To be right, nutrient management needs to fit in with the site-specific management needs of each farm’s crops, soils and resources. In addition, the cropping system is embedded in an ecosystem. Each ecosystem has its own sensitivities, which may require additional and complementary conservation practices. Responsible management of plant nutrition needs to focus on sustainable whole systems.

The crop nutrition industry is engaging more and more in the implementation of 4R Nutrient Stewardship. Industry associations, farm commodity groups, sustainability organizations, scientific societies, and environmental groups are all contributing to these efforts. The 4Rs benefit everyone—and we all play a role in its implementation. The task is large and beyond the capacity of any one organization.

IPNI has partnered and collaborated worldwide with many organizations to develop and promote the 4R concept, and to advance its implementation. As IPNI scientists, we are confident in continuing and expanding these efforts. Our mission and our plans are built around developing and delivering evidence-based information supporting the vision behind the 4R oval. For the science behind the diagram, IPNI scientists seek to serve all those engaged in its implementation.



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