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SUSTAINABILITY, STEWARDSHIP, AND THE NUTRIENT MANAGEMENT PLAN

Demand for sustainability information is building. According to Canada's Provision Coalition, today's sustainability-conscious consumers want to know the whole story—cradle to grave—behind their food purchases. How can nutrient stewardship—the responsible management of crop nutrition—be communicated in a manner that builds the public's trust?

Nutrient management plans track a lot of detail essential for the farm manager. Plans that track the source, rate, time and place of every nutrient application help crop producers and their advisers as they seek to improve the sustainability of their crop nutrition management. They are inadequate, however, for communication to all the stakeholders of the agricultural system, since they do not condense and interpret the vast volume of information they generate. They don't mean a lot to those not fully familiar with the specific soils, cropping systems, weather and climate of a specific farm in a specific region.

A plan needs to fit into a reporting system. For crop producers to be recognized as contributing to sustainability, their management plans need to fit into sustainability reporting systems that address the key questions being raised. Such reporting needs to distill the detail of nutrient management plans into simple reportable metrics that are meaningful to the people who eat the food and use the products of the farming system, and who drink the water and breathe the air it impacts.

A plan considers all four Rs. Sustainable crop nutrition demands use of the "right" combination of source, rate, time and place for each nutrient application. The "right" combination is the one that makes progress on three key areas controlled by management of crop nutrition: supporting productive crops, keeping soils fertile, and improving nutrient use efficiency. Nutrient use efficiency on its own is not enough. Fertilizer source, timing and placement can dramatically impact air and water quality even in situations where their effect on nutrient use efficiency is small. All key areas need to be reflected in the metrics that are chosen.

Adoption of nutrient management planning has been limited. Nutrient management plans for livestock operations have focused on managing nutrient surpluses associated with manure and monitoring regulatory compliance. In many regions, excellent software tools have been developed for such plans. In general they track the source, rate, time and place of all nutrient applications made on the farm. The plans, supported by software, have become useful for education, management, and record-keeping. Yet relatively few growers, particularly among cash crop operations, have adopted them. Also, even where they have been adopted, they are not always referred to or followed.

To gain greater adoption of nutrient management planning, what needs to change? The 4R Nutrient Stewardship framework offers up some ideas. A 4R plan has a purpose that benefits the farm. The plan is part of a strategy to highlight the farm's progress toward enhanced sustainability. It reports on metrics of key importance, related to the farm's sustainability goals. The goals relate to economic, environmental and social impacts of the operation, the key current concerns of the farm's regional stakeholders. Reporting these metrics to an aggregator for the industry supports a communications program that can contribute to building public trust and improving the business climate for farming.

Efforts are currently underway to raise the profile of 4R Nutrient Stewardship. These efforts across North America include gaining the support of many stakeholder organizations, including industry, government, research, extension, and environmental groups. Whether you are a crop producer or a crop adviser, now is the time to become familiar with the benefits and requirements associated with 4R Nutrient Stewardship planning.

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Note: *Plant Nutrition TODAY* articles are available online at the IPNI website: www.ipni.net/pnt