



4R Nutrient Stewardship Certification Standards

***Proposed Requirements for Certification
of Nutrient Service Providers in the Lake Erie Watershed and all of
Ontario***



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Introduction

The fertilizer industry has established the 4R Nutrient Stewardship Framework in cooperation with government, researchers, customers, farm organizations, conservation Ontario and the public. Adjustments in the crop nutrient source and application rate, timing, and placement method will support agricultural productivity while also helping to improve the water quality of the Great Lakes, specifically Lake Erie and its contributing watersheds.

The **Right Source** means ensuring a balanced supply of essential plant nutrients including granular fertilizers, liquid fertilizers and/or manures.

The **Right Rate** is applying just enough fertilizer to meet the needs of the plant while accounting for the nutrients already in the soil.

The **Right Time** means applying fertilizer when the plant will get the most benefit and avoiding times when fertilizer can be lost to the environment.

The **Right Place** is where the plants can easily use it and where it is less likely to be lost to the water or air.

4R Nutrient Stewardship best management practices must be customized to fit each farm's unique climatic, soil, cropping and operational conditions. This is achieved, as needed, with professional input from recognized and qualified specialists such as Certified Crop Advisors who work with farmers to assess their situations and develop management plans.

Continuous improvement can be achieved by employing science that optimizes the economic, social and environmental performance of best management practices utilized in implementing the voluntary 4R Nutrient Stewardship Program in Ontario.

The enclosed 4R Certification standards were created by the 4R Ontario Steering Committee in close collaboration with the Nutrient Stewardship Council, the Ohio Agri-Business Association and The Fertilizer Institute in the U.S. to ensure alignment between cross-border efforts to implement 4R Nutrient Stewardship and minimize nutrient losses under the 4R Certification Program. The standards are reflective of the best available science, technology and regulatory requirements for Ontario conditions. Members of the 4R Ontario Steering Committee represent a diversity of stakeholders including Fertilizer Canada; the Ontario Ministry of Agriculture, Food and Rural Affairs (OMAFRA); the Ontario Agri Business Association (OABA); the Grain Farmers of Ontario; the Ontario Federation of Agriculture; the Christian Farmers Federation of Ontario; Conservation Ontario; The Nature Conservancy – Ohio; the Ministry of the Environment and Climate Change; the International Plant Nutrition Institute; the Ontario Certified Crop Advisor Board of Ontario; and Ontario agri-retailers.

In implementing this 4R Certification Program, the 4R Ontario Steering Committee is seeking feedback for a consistent, recognized program for agricultural retailers, agricultural service providers, and certified professionals to help ensure that 4R Nutrient Stewardship goals are adopted and that in turn lead to long term positive impacts on water quality. While these standards do not apply to individual growers, on-farm adoption of the recommendations made by Nutrient Service Providers that become certified under the standards is critical to meeting the goal of improved water quality.

In addition to general principles of 4R Nutrient Stewardship, the standards have incorporated specific criteria for the purpose of addressing regional priorities for water quality, including

references to regional soil fertility recommendations and requirements to prevent nutrient application on frozen ground.

The standards are intended to support the adoption of 4R Nutrient Stewardship by specifying best practices for nutrient recommendations and nutrient application. The standards also include an education component to ensure that new practices related to nutrient stewardship are adopted by the Nutrient Service Providers and shared with their grower customers.

The 4R Ontario Steering Committee members will continuously work with the research community to help identify the most effective conservation and nutrient management practices to ensure the standards stay up to date and provide the most current research available.

Goals

The 4R Nutrient Stewardship Certification standards were drafted as part of a voluntary initiative to improve the watershed conditions of the Western Lake Erie Basin. The standards were created to address the following goals:

- optimize crop uptake of nutrients and minimize nutrient losses;
- create long-term positive impacts on water bodies associated with agricultural production areas, including the reduction of eutrophication and incidence of harmful algal blooms, and helping to meet water quality standards;
- encourage sharing of the most up-to-date information about responsible nutrient stewardship with Nutrient Service Providers and growers; and other interested groups
- help the agricultural sector adapt to new research and technology in the area of nutrient stewardship.

Scope

The 4R Nutrient Stewardship Program, of which these standards are a central component, is designed to recognize Nutrient Service Providers who have adopted the principles and practices of 4R Nutrient Stewardship. These standards translate 4R Nutrient Stewardship into a set of auditable criteria.

The 4R Nutrient Stewardship Certification Program is voluntary, and applies to Nutrient Service Providers working in the Lake Erie watershed region and all of Ontario, including agricultural retailers, agricultural service providers, and certified professionals. Grower customers of the Nutrient Service Providers are **not** included under the scope of the standards.

Structure and Implementation

The standards are divided into the following main sections:

1. Training and Education
2. Recommendations
3. Application
4. Documentation

Sections 1 and 2 apply to all types of Nutrient Service Providers pursuing certification in the program. Parts of Section 3 may not be applicable for those Nutrient Service Providers that either only make recommendations for nutrient use *or* only carry out nutrient application.

Each group consists of auditable evaluation criteria, which form the basis of the standards. There are a total of 38 auditable evaluation criteria. Of that total: 6 address training and

education, 12 address nutrient recommendations, 10 address nutrient application and 9 address maintenance of proper documentation.

In most cases, a Nutrient Service Provider will offer nutrient recommendations or nutrient application services or both to multiple farms. Unless otherwise specified, 100 per cent of grower customers of the Nutrient Service Provider must meet the requirements specified by the auditable evaluation criteria during every audit year in order to achieve conformance with the standards.

Using the standards as the normative reference, audits will be conducted by third-party auditors to determine whether a specified agricultural retailer, agricultural service provider, or crop adviser, acting as a Nutrient Service Provider, has met the requirements of the standards. The degree of conformance to the standards will be assessed by the auditor, who will evaluate each auditable evaluation criterion, as: Comply, Not Comply, or Not Applicable.

The 4R Certification program will be on a two year audit cycle and is scheduled to be published April 1, 2018 and implemented in Fall 2018.

Public Comment Period

As a stakeholder that has interest in the success of the Ontario 4R Certification program and the long-term quality of Lake Erie, your feedback is important to us. The proposed Ontario 4R Certification standards may require alterations to current practices and we want to be sure these changes are feasible while continuing to optimize nutrient availability and reduce nutrient loss.

Please find the proposed Ontario 4R Certification Standards below for your review. A word document outlining the Ontario 4R Certification Standards is available upon request.

Please provide any comments by **February 28, 2017**. All comments must be provided in writing and should be submitted to:

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All comments received will be reviewed and incorporated as appropriate. We will make the greatest effort to reach out to all respondents to address all comments and questions.

In addition, three audience-specific webinars will be provided to further explain the Ontario 4R Certification Program and Standards. These webinars will take place during the consultation period and will be available for; 1) **Farmers on Monday February 5, 2018**, 2) **Agri-retailers/CCAs on Tuesday February 6, 2018** and 3) **the Public/ Conservation Partners on Tuesday February 6, 2018**. If you are interested in participating, please save the date and contact McKenzie Smith (msmith@fertilizercanda.ca) by **January 31, 2018**.

Proposed Ontario 4R Certification Standards		
T	Training	
R	Recommendation	
A	Application	
D	Documentation	
Req. No.	Requirement	Evidence
T1	Nutrient Service Providers, sales, and application staff have undergone an initial training and staff are able to demonstrate knowledge about 4R Nutrient Stewardship and the 4R Certification Program.	Meeting agendas, education log, or materials indicating 4R concepts and topics (Right Rate, Time, Place and Source) were covered, roster of those in attendance. Can be an interview with various staff. Educational information and sample presentations available at eLearning.fertilizercanada.ca & 4r.fertilizercanada.ca .
T2	Certified professionals must have current certification in good standing.	Print-off of current credentials and/or certification which include: Certified Crop Adviser (CCA), CCA 4R Specialty or Certified Nutrient Management Consultant.
T3	Any staff member making nutrient stewardship recommendations attend training, at least once every 2 years on the practices and principles of 4R Nutrient Stewardship, soil sampling and testing techniques, and/or nutrient water interaction. This is demonstrated through a minimum of 5 hours of documented training per year.	If the staff person is a CCA or Certified Nutrient Management Consultant, then proof of active status is sufficient. If not a CCA, but still a certified professional, print-off of classes taken is needed. If not explicit, include agendas of meetings attended.
T4	Nutrient Service Provider's sales and application staff attend a training at least once every 2 years on 4R Nutrient Stewardship. This is demonstrated through a minimum of 2 hours of relevant training approved by the Ontario 4R Retailer Certification program administrator.	Program Administrator must review training offered, it may be through the agri-business itself or through a third-party. Agenda and attendance is required.
T5	Nutrient Service Provider has conveyed informational materials on 4R Nutrient Stewardship to all grower customers.	Signature by grower, OR proof of attendance at a company sponsored 4R Nutrient Stewardship educational event, OR proof of distribution of materials via mailing list.
T6	Nutrient Service Provider has sponsored or directly provided a training session on 4R Nutrient Stewardship that is available for all grower customers.	Agenda of the company-sponsored educational event shows training on 4R Nutrient Stewardship approved by the Program Administrator

R1	Soil (analysis) tests are conducted by an OMAFRA accredited lab which include, at minimum: organic matter, Phosphorus (Olsen), Potassium, and pH.	Review of soil testing records on file, can be hard copy or electronic. All 4 items must be indicated on the records.
R2	Soil tests are conducted at least once every 4 years.	Review of records on file, can be hard copy or electronic. Most recent soil test result may not be older than 4 years old.
R3	Nutrient recommendations utilize the soil test history of the field, including results from the most recent soil test.	Review of records on file, can be hard copy or electronic. Current soil test results must be equal to or less than 4 years old. If it is a new field, crop insurance township averages, drainage, and soil type may be used.
R4	Soil tests are taken at an appropriate depth from relatively uniform areas no larger than 25 acres.	Review of records on file, can be hard copy or electronic. Maps indicating acres represented in sample must be provided. All areas sampled must be smaller than 25 acres.
R5	If manure is applied, its content of total and available nutrients is based on either OMAFRA's database average for the specific manure type, or using sampling and analysis following recognized guidelines.	Samples collected using procedures set out in Nutrient Management Act protocols. Analysis must be conducted by OMAFRA approved laboratory. Manure nutrient analysis records (hard copy or electronic) will be reviewed if manure is applied on fields where recommendations are made or fertilizer applied.
R6	Nutrient recommendations and/or application adhere to minimum setbacks from all known sensitive areas, such as tile inlets, well heads, gullies, and water bodies specified in applicable national, provincial, or local laws.	Records of application recommendations and actual applied maps or spreading tickets. Information on (4R Ontario website) will relate to national and provincial regulations. Any local laws will not be updated regularly on the site.
R7	For all nutrient recommendations and/or application, the inclusion of a minimum setback distance (e.g., 35-100 ft.) near known sensitive areas, such as tile inlets, well heads, gullies, and water bodies is documented and discussed with the grower customer.	Setbacks discussed in meetings with grower customer, in subsequent years signatures of grower customers will be on file, or included on customer's application/recommendation cover sheet or maps.
R8	All sources of nutrients are accounted for in the 4R Nutrient Stewardship Plan, including but not limited to commercial fertilizers, manure/litter, biosolids, cover crops, and the previous crop.	Nutrient recommendations indicate all sources of nutrients in the recommendation records. Credits are given to all sources of fertilizer applied and there is a reduction in commercial fertilizer recommended.

R9	Crop yield goals are discussed with the grower and are based on previous crop yield history.	Review of records on file, can be hard copy or electronic. Proof of level of crop management may be previous yield history, township averages, or local adaptive management research. Discussion about the process and some documentation or records of process.
R10	Recommended nutrient application rates are at or below limits specified by nutrient application recommendations recognized by a government or academic institution that reflects growing conditions consistent with those of the customer. Recommendations may also allow for adaptive management based on documented on-farm data showing reasonable expectation of improved crop yield without increased risk of harm to water quality.	Records will be compared to credible government or academic sponsored nutrient recommendations first. If above these rates, data from adaptive management research must be presented justifying the different recommendation. Field averages will be used to evaluate this criteria. The Nutrient Management Act is considered a government recognized recommendation source.
R11	If urea or UAN is broadcast and not incorporated within 24 hours, it is recommended to be applied with an enhanced efficiency N sources.	Review of records on file, can be hard copy or electronic. Fertilizer recommendations and applied scale ticket or as-applied map.
R12	Discussion on nitrogen management include options of split application, nitrification inhibitors and slow release technologies.	producer sign off.
A1	Application records shall not exceed recommendations for custom applied acres. Within an acceptable margin of error for calibrated equipment.	Review of records on file, can be hard copy or electronic. Nutrient recommendations and applied scale ticket or as-applied map.

A2	Phosphorus injection, subsurface banding, or broadcasting with immediate incorporation are the recommended placement methods unless the risk of phosphorus loss to surface water has been demonstrated to be low according to a provincially approved phosphorus index risk assessment procedure.	Recommendation records indicate the recommended placement(s). Statement on phosphorus placement given/mailed to grower customers or grower customer signature indicating understanding.
A3	Crop nutrient applications are neither made nor recommended to be made on frozen or snow covered ground.	Recommendation records indicate the preferred timing. Application records indicate there is no frozen ground or snow present. Frozen ground is defined: when soil conditions are such that tillage or nutrient incorporation and/or injection after application are not possible at the time of nutrient application, and will not be possible within the next 48 hours as a result of frozen conditions. Snow-covered ground is defined: when soil cannot be seen because of snow cover.
A4	Total application of Phosphorus not to exceed the quantity needed for the next two years of planned crops.	Records will be compared to a recognized recommendation source. Field averages will be used to evaluate this criteria. Records of individual soil test will be compared to the credible recommendation source or equivalent tool. Crop nutrients regulated under the Nutrient Management Act must follow Technical Standard of the NMA.
A5	Nutrients are applied according to a written nutrient recommendation that has been prepared within the prior three years.	Records of application will be compared to the recommendations on file. Only applicable to the full service customers.
A6	All nutrient application equipment must be calibrated, at least annually.	Calibration (i.e., maintenance) records indicating equipment service date and any maintenance/service required.
A7	Broadcast applications of crop nutrients without immediate incorporation are neither made nor recommended unless a documented local weather forecast (verifiable private or government generated) indicates less than a 50% chance of a rainfall event involving more than 25mm (one inch) of rain beginning in the next 12 hours.	The current weather forecast for the nearest town available to the fields is printed as a record within 12 hours of application. If the chance of precipitation exceeds 50%, the forecast total amount must be less than 25 mm (one inch). A consistent source of weather forecasts is used.

A8	Where in-field variability in crop nutrient need or environmental risk is identified and variable rate application is warranted, site specific nutrient application is used.	Review of records on file, can be hard copy or electronic. Maps must be provided. Consideration is targeted towards fields that are 25 acres or larger.
A9	<p>Records of nutrient application include at minimum:</p> <ul style="list-style-type: none"> <input type="checkbox"/> method of application; <input type="checkbox"/> time of application; <input type="checkbox"/> field map showing locations of application; nutrient source & rate <input type="checkbox"/> weather (temperature and precipitation) conditions at the time of application; and <p>weather forecast for the day of application</p>	Review of records on file, can be hard copy or electronic.
A10	No application of fall nitrogen other than co-applied with P sources or to meet fall planting N requirements.	No application or recommendation for fall application of N other than for what is included in P sources or is used for winter wheat or cover crop.
D1	Nutrient Service Providers will record a list of grower customers and number of acres in the following categories: full service, recommendation only, application only, and an estimate of all other acres.	Review of records on file, can be hard copy or electronic. The NSP will record and submit a list of grower customers and acres per each in the following categories: full service, recommendation only, application only, and an estimate of all other acres.
D2	Nutrient Service Provider maintains records related to all nutrient and application recommendations by Nutrient Service Provider.	Review of records on file, can be hard copy or electronic. Fertilizer recommendations and applied scale ticket or as-applied map.

D3	Records related to grower customers are kept confidential by the Nutrient Service Provider and are made available for review during an audit.	Confidentiality statement with NSP and auditor signatures. Records are kept confidential by NSP as demonstrated with computer codes, file cabinets, or "safe" rooms or confidentiality agreement with the grower customer.
D4	Nutrient Service Provider keeps onsite list and/or copies (either electronic or hard-copy) of relevant national, provincial, or municipal laws related to nutrient recommendations and application.	Review of records on file, can be hard copy or electronic.
D5	Records of individual fields that are accessible to the retailer and made available to the grower/customer include, at minimum: <input type="checkbox"/> field boundary, soil type <input type="checkbox"/> current soil test results, nutrient recommendations <input type="checkbox"/> crop yield goals used for making recommendations, and rates applied to each field	Review of records on file, can be hard copy or electronic.
D6	Nutrient recommendations have been reviewed and acknowledged in writing by the grower/customer.	Signatures of grower customers on file.
D7	Nutrient recommendations for each grower have been approved and signed by a Certified Professional.	Signatures of Certified Professional for each grower customer is on file, certifying that they approve the nutrient recommendation.
D8	4R Nutrient Plans must include information about yield goals, known sensitive areas (e.g., surface water, inlets, wells, etc.), soil type delineation, setbacks, and soil test results.	Review of records on file, can be hard copy or electronic. There may be multiple field maps to ensure all the information is outlined.

D9	Field records related to monitoring of 4R implementation must include the watersheds and sub-watersheds where the farms are located.	Identify by watershed name or supply GIS data layer and/or hard copy map.
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