NATIONAL FARMERS UNION-ONTARIO

December 29, 2017

Re: Response to OMAFRA's "NEW HORIZONS: Ontario's Draft Agricultural Soil Health and Conservation Strategy."

Introduction

The National Farmers Union-Ontario (NFU-O) is pleased to comment on the Ontario Ministry of Agriculture, Food, and Rural Affairs' (OMAFRA's) document, "NEW HORIZONS: Ontario's Draft Agricultural Soil Health and Conservation Strategy." We agree that healthy soil plays a vital role in regenerative, sustainable agriculture and commend OMAFRA for taking this important first step toward using its influence and resources to improve the biological health and conservation of Ontario's soils.

From the framework set out in the draft, the NFU-O respectfully offers the following comments with recommendations:

1. Taking advantage of the current moment

The NFU-O is pleased with the emphasis OMAFRA is placing on what comprises biologically healthy soils and what methodologies and techniques can be utilized to build and conserve such soils. We agree that Ontario (as well as Canada and elsewhere) is witnessing a "soil health renaissance." Farmers in particular, of all kinds, are deepening their interest in and understanding of the potential impact of healthy soil – on the nutrient density of the crops they produce, levels of production, carbon sequestration capacities, and profitability. Now is an opportune time for OMAFRA to capitalize on this growing trend, and **we recommend that OMAFRA put its full weight behind this initiative.**

2. The need for flexibility in conceptualizing, developing and implementing a soil health and conservation strategy for Ontario

Like soil biology which is essentially organic and perpetually dynamic in its composition, any soil health strategy, if it is to be effective over the long term, also needs to be objective and dynamic; it needs to draw from all key stakeholders with an interest in soil health, especially farmers who are closest to the soil, and it needs to be flexible and to be open to change as compelling new knowledge and understanding of soil biology is discovered and shared. **Therefore, the NFU-O encourages OMAFRA to incorporate such objectivity, flexibility and nimbleness into its strategy on soil health and conservation to ensure a constructive and productive dynamism.**

3. The critical importance of farmers for a successful soil health strategy

While there is an important role for many stakeholders in the design and implementation of an effective soil health and conservation strategy, we believe farmers in particular represent the greatest catalyst to ensuring maximum soil health. Ultimately it is farmers who, on a day-to-day basis, are closest to the soil, observe changes to the soil, and analyze and learn from those changes. For this reason, we believe that ***OMAFRA's soil health strategy would greatly benefit from a farmer peer-to-peer networking and learning strategy and mechanism, and we recommend the development of such a strategy with design input from farmers of all kinds from across Ontario's farmlands. The data generated could be of inestimable value not only to farmers but to other stakeholders with an interest in soil health and conservation.***

4. A holistic approach to soil health

In *New Horizons* OMAFRA has asserted that, "No matter how it's defined, soil health is about the interaction of the physical, chemical and biological properties of the soil, and it is vital to long-term, sustainable crop production. Soil organic matter and microorganisms play a key role in all three properties." The NFU-O understands this assertion to reflect an essentially holistic or integrated concept and understanding of soil biology as opposed to a reductionist, mechanistic understanding that treats soil components and processes as separate and

unrelated. **The NFU-O very much welcomes this approach and encourages OMAFRA to continue building on it. The farmer peer-to-peer networking and learning strategy and mechanism we recommended above (# 3) can greatly contribute to the evolution of a holistic and integrated approach to soil health and conservation.**

5. Best Management Practices (BMPs) and Integrated Pest Management (IPM)

We welcome OMAFRA's concern over the general deterioration of Ontario's and the world's soils due to erosion, nutrient depletion, loss of soil organic carbon, declining soil biodiversity, and other issues. That OMAFRA also has cited the "over-application of mineral fertilizers and pesticides" as having a negative impact on soil organisms vital to the healthiest possible soils, is a point we especially applaud. In addressing what might be termed soil health limiting (or destroying) inputs and practices, *New Horizons* places a predominant emphasis on the promotion of BMPs as the best safeguards. BMPs are also advocated in the DSHH as is the 4R Nutrient Stewardship in approaching pest and nutrient management. In our experience, however, these tools are limited and growers are increasingly using IPM tools that take a more encompassing approach in dealing with pest pressures and nutrient requirements for crops. IPM encompasses a whole systems approach to pest and nutrient management whereas a tool like 4R tends to target specific products for remedial purposes. (Note: This approach is consistent with the principle of holism articulated in #4 above.) **We recommend that an evaluation be undertaken of all the tools used to address the challenges of pest pressure, nutrient management, and adversarial/beneficial bacteria/fungi, and that special consideration be given to better understanding IPM with a view to incorporating this concept and approach into the context of BMPs and the 4R.**

6. The importance of establishing baseline data in order to effectively assess the impact of a soil health and conservation strategy

In response to Section 3 of *New Horizons*, we believe the establishment of more sufficient, comprehensive and achievable targets that identify soils as healthy would be helpful. We believe these targets would benefit from specified timeframes for achievement. Identifying farm-scale targets are a good first step, but a more broadly applicable mechanism that measures improvements at the farm level against a provincial set of standards for soil health improvement would

be beneficial. **We therefore recommend the establishment of baseline data, at this beginning stage of the soil health strategy, against which success of the strategy can be measured on an ongoing basis.**

As a corollary to the above - As the Ontario Agriculture Soil Health and Conservation Strategy moves into the implementation stage, there will be an increase in amount of data collected. Privacy of the individual from whom the data will be subject to protection. However, since data is needed to evaluate progress on soil health and conservation, proprietary rights to the data would be a hindrance to identifying progress. Therefore, we recommend that ownership and use of data must be clarified prior to the implementation of the strategy and to coincide with the completion of the Soil Mapping Strategy.

7. Soil mapping strategy

We believe a soil mapping strategy would be a positive and potentially beneficial tool as an aid to achieving greater soil health and conservation. In order to assess Ontario's current status with respect to soil health, **the Soil Mapping Strategy, already underway, should be accelerated so it coincides with the implementation of OMAFRA's soil strategy.**

8. Addressing the potential gap between achieving maximum soil health and profitability

The incorporation of new techniques to grow a crop is inexorably linked to the profitability of the crop. Making compromises that may be required to enhance and maximize the health of soil and the natural environment, may at times be at odds with the maximization of profits. To help address this challenge, we recommend that any soil health and conservation strategy includes a process of comprehensive value transfer to growers incorporating strategies to improve and conserve soil health. Current provincial funding to growers is insufficient in relation to measurable improvements in soil health going forward.

9. Roles groups should have in promoting and supporting soil health and conservation

Roles that the five groups mentioned in the OMAFRA survey should have in promoting and supporting soil health and conservation should be fairly obvious.

Governments: funding support, training and extension; Agricultural organizations: policy and program development; Researchers and academics: R&D; Conservation organizations: monitoring of progress; and so on. We recommend a sixth group – that of farmers who, across agricultural organizational lines, are well positioned to network and through a peer-to-peer learning process and mechanism that would provide data critical to the ongoing improvement of any soil health and conservation strategy. See our #3 above.

10. Highlighting current marketplace thinking on soil health and conservation

We note that rapid changes are taking place in the soil health and conservation marketplace. Private companies are increasingly ramping up and vigorously promoting new sources of organic/biological products for use in organic crop production. In our view, the current iteration of *New Horizons* is not current with this emerging and growing reality. **Therefore, we recommend that the document make a very conscious effort to highlight current thinking on soil health and conservation, regardless of its source (public or private). Also, we recommend that the document identify (without naming the manufacturers) products that claim to improve that state of soil health.** The identification of these products will enable publicly-funded researchers to assess their viability and integrity.

11. Counteracting climate change

As the *New Horizons* document appropriately states, farmers have a key role to play in counteracting climate change, as increases in soil organic carbon reduce atmospheric CO2. In order to take advantage of this role, **any provincial soil health strategy should:**

- **Establish more aggressive targets for increasing the percentage of soil organic matter, and correspondingly, more aggressive targets for decreasing both the percentage of uncovered winter soil and the percentage of topsoil loss;**
- **Set interim targets for the above, since 2030 is too far into the future;**
- **As mentioned in #5 above, begin moving away from the limitations of the dominant BMP approach to an IPS approach.**

12. Financial incentives for reaching (and/or exceeding) soil health improvement targets

OMAFRA's soil health strategy **should include provision for financial incentives for reaching and/or exceeding soil health improvement targets that:**

- **Incentivize the results of farmers' management strategies rather than their compliance with particular BMPs;**
- **Refrain from disqualifying financial supports for those who are already working to improve soil health on their farms.**

Additionally, and in response to one of OMAFRA's survey questions, we offer several ideas as to how the NFU-O and its members can support efforts to improve soil health and conservation in Ontario:

- **Provide funds to support peer-to-peer educational events and farmer-led research;**
- Continue to improve effective on-farm cover cropping, soil-building and tillage reduction strategies;
- **Ensure that the agriculture community is not made to bear the full cost of building soil health. The activities of agricultural non-profits, especially those that promote peer-to-peer networks, should be shared widely and adequately funded.**