General Information on Recommended Fertilizer Application Rates

The annual application rates presented in the table provided are for guidance only. They must be adjusted according to the specific needs of each situation. The total amount should be split and applied at the appropriate physiological stages of the crop.
Adjustments to application rates and timing depend on several factors, including:

- soil type and its physico-chemical (e.g., drainage, pH, nutrient content) and biological properties;
- the cultivar used;
- residual nutrient contributions from previous crops (e.g., green manures);
- the carryover effects of previous fertilization;
- additional inputs from compost or manure;
- applicable provincial regulations.

It is recommended to perform a soil analysis every 3 to 5 years to maintain proper nutrient balance and avoid excessive accumulation of certain elements.

Ontario accredited laboratories:
A&L Canada Laboratories Inc. (London, ON): https://alcanada.com/
SGS Canada – Crop Science Laboratory (Guelph, ON): https://www.sgs.com/en-ca/our-services/testing

For a fertilization plan tailored to your needs, consult an agronomist or agricultural professional: https://oia.on.ca/ . They will be able to guide you in integrating Acti-Sol 5-3-2 fertilizer to help maintain soil health

Factors Influencing Granule Breakdown Rate

1. Granule size:

- Fine (< 2.5 mm): breakdown in less than one week
- Regular (≈ 3 mm × 6 mm): breakdown in less than two weeks

2. Method of application/incorporation:

- **Soil incorporation (within the top few centimeters):**
  Promotes faster breakdown and improves fertilizer efficiency through better soil contact, quicker moisture uptake, and enhanced interaction with microorganisms.
- **Band application near roots:**
  Also optimizes fertilizer efficiency by placing nutrients closer to the root absorption zone.
- **Broadcast application:**
  Less efficient. Increased risk of volatilization losses, reduced soil contact, and greater distance from the root zone.

3. Type of irrigation system:

- **Sprinkler or boom irrigation (uniform soil wetting):**
  Facilitates granule breakdown.
- **Stake sprinklers or drip irrigation:**
  Often results in uneven wetting, which may limit granule hydration, slow breakdown, lead to nutrient accumulation at the surface, restrict plant access to certain nutrients, and increase the risk of soil salinity.

5-3-2 Application Guidelines – Agronomic Reference Values

	Nutrient contribution of 5-3-2 (kg)		
Quantity of 5-3-2 (kg)	**N**	**P_2O_5**	**K_20**
1	**0,05**	**0,03**	**0,02**
50	**2,5**	**1,5**	**1**
100	**5**	**3**	**2**
1000	**50**	**30**	**20**

Application rates do not account for efficiency, which may vary between 70–100% depending on application methods and production systems.

	Amount of Acti-sol 5-3-2 to apply (total/ha) in mineral soil per season to meet nitrogen needs		
Vegetables Crops	**Quantity of Acti-Sol 5-3-2 kg / ha**	**Quantity of Acti-Sol 5-3-2 kg / acre**	**Quantity of Acti-Sol 5-3-2 kg/m^2**
Asparagus - establishment	2800–3000	1165–1215	0.28–0.3
Asparagus - maintenance year 2+	1000–2000	435–800	0.1–0.2
Sweet corn	2500-3500	960-1415	0,25-0,35
Potato	500-700	230-285	0,05-0,07
Demanding vegetables (solanaceae, brassicaceae, potato)	2175-2300	880-930	0,21-0,23
Moderately demanding vegetables (cucurbits, alliums, beet, radish, spinach)	1475-1600	600-650	0,14-1,6
Low-demand vegetables (carrot, parsnip, lettuce) and herbs	275-700	110-485	0,02-0,07
Legumes (bean, pea)			

Fruits crops

	Amount of Acti-sol 5-3-2 to apply (total/ha) in mineral soil per season to meet nitrogen needs		
	Quantity of Acti-Sol 5-3-2 kg / ha	Quantity of Acti-Sol 5-3-2 kg / acre	Quantity of Acti-Sol 5-3-2 kg/m^2
Blueberry	550-675	225-315	0,055-0,67
Cranberries-maintenance	400-1300	165-525	0,04-0,13
Haskap	475-1000	195-400	0,047-0,1
Strawberry-Planting	2375-2500	960-1010	0,23-0,25
Strawberry-Maintenance	1235-1605	500-650	0,12-0,16
Rapsberry-Planting	775-900	315-365	0,07-0,09
Rapsberry-Maintenance	975-1100	395-445	0,09-0,11
Apple	575-700	235-285	0,057-0,07
Elderberry	1110-1235	450-500	0,11-0,12
Vines	375-500	150-200	0,037-0,05
Soil preparation for planting berries	875-1000	355-405	0,087-0,1

Field crops

	Amount of Acti-sol 5-3-2 to apply (total/ha) in mineral soil per season to meet nitrogen needs	
	Quantity of Acti-Sol 5-3-2 kg / ha	Quantity of Acti-Sol 5-3-2 kg / acre
Oats	675-1200	275-485
Wheat	1675-2400	675-970
Barley	675-1600	275-645
Soybean	0-600	0-245
Grassland & Pasture-establishment	875-2200	355-890
Grassland & Pasture≥40% + legumes-maintenance	0-1500	0-600
Grassland & Pasture≤40% + legumes-maintenance	1375-3200	555-1295

Nurseries

	Amount of Acti-sol 5-3-2 to apply (total/ha) in mineral soil per season to meet nitrogen needs		
	Quantity of Acti-Sol 5-3-2 kg / ha	Quantity of Acti-Sol 5-3-2 kg / acre	Quantity of Acti-Sol 5-3-2 kg/m^2
Deciduous trees and shrubs - planting	575-700	235-285	0,057-0,07
Deciduous trees and shrubs - maintenance	1675-2100	680-850	0,16-0,21
Evergreen trees and shrubs and Ericaceae - planting	475-600	195-245	322
Evergreen trees and shrubs and ericaceous plants - maintenance	1375-1500	555-605	0,13-0,15
Conifers- planting	575-700	235-285	0,05-0,07
Conifers-maintenace	1675-1800	675-730	0,16-0,18

Important Notice: The information provided in the grower section is for reference purposes only. It is not a substitute for a personalized fertilization plan. Acti-Sol accepts no responsibility for improper use or incorrect product dosage. It is strongly recommended to consult an agronomist or a qualified professional to adapt the recommendations to your specific situation.

*Based on the following fertilization grids and production guides

1. Centre de référence en agriculture et agroalimentaire du Québec (2015). Guide de référence en fertilisation. 2e édition actualisée. 479p.
2. Centre de référence en agriculture et agroalimentaire du Québec (2023)L'implantation d'un pommier. 2e édition. 26 p.
3. Ministère de l'Agriculture, de l'Alimentation et des Affaires rurales – Ontario : https://www.ontario.ca/fr/page/agriculture-et-alimentation
4. Manuel de la fertilité du sol (OMAFRA) : https://files.ontario.ca/omafra-soil-fertility-handbook-fr-2022-10-13.pdf

You may also consult the following fertilization and production guides:

- CRAAQ – Quebec: https://www.craaq.qc.ca
- Ontario Ministry of Agriculture, Food and Rural Affairs: https://www.ontario.ca/page/agriculture-and-food
- Soil Fertility Handbook (OMAFRA): https://files.ontario.ca/omafra-soil-fertility-handbook-fr-2022-10-13.pdf