General Information on Recommended Fertilizer Rates

The annual application rates presented in the accompanying table are provided **as a guideline**. These rates must be **adjusted according to the specific conditions of each production system**. The total amount should be **split into multiple applications** and applied at the **appropriate physiological stages** of the crop.

Fertilizer rates and timing should be adapted based on several factors, including :

- Soil type and its physical, chemical (e.g., drainage, pH, nutrient levels) and biological properties
- The cultivar being grown
- Nutrient contributions from previous crops (e.g., green manures)
- Residual effects from past fertilizer applications
- Additional inputs such as compost or manure
- Applicable **provincial regulations**

It is recommended to conduct **soil analysis every 3 to 5 years** to ensure nutrient balance and avoid excess accumulation of certain elements.

To develop a fertilization plan tailored to your needs, consult an **agronomist or agricultural professional**. They can help you integrate **Acti-Sol 5-3-2 fertilizer** in a way that supports long-term soil health.

You may also refer to the following fertilization and crop production guides :

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

---

Factors Affecting Granule Breakdown Speed

1. Granule Size :

- **Fine (< 2.5 mm)** : breaks down in less than one week
- **Regular (≈ 3 mm x 6 mm)** : breaks down in less than two weeks

2. Method of Application :

- **Incorporation into the top layer of soil** (e.g., during soil prep) :
  Promotes faster granule breakdown and greater efficiency by improving soil contact, accelerating moisture absorption, and enhancing access to microorganisms.
- **Band application near the roots** :
  Also improves fertilizer efficiency by placing nutrients closer to the root zone.
- **Broadcast application** :
  Least efficient method due to reduced soil contact, increased risk of volatilization, and greater distance from plant roots.

3. Irrigation System :

- **Sprinkler booms or overhead systems** that provide **uniform soil moisture** help facilitate granule breakdown.
- **Drip irrigation or sprinkler stakes** often result in **non-uniform soil wetting**, which can limit granule moisture absorption and slow down degradation.
  In these conditions, nutrients may accumulate on the surface, reducing plant availability and increasing the risk of **soil salinity**.

Field fertilization with 5-3-2 Acti-Sol

	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.

Vegetables 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**
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	2375-2500	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-main	0-1500	0-600
Grassland & Pasture≤40% + legumes-main	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