



STANDARD OPERATING PROCEDURE

Calculating Grams Of Active Ingredient Applied From Product Used

Pesticide labels present the guarantee of active ingredient as either a percentage of the product or as a weight per volume. This SOP will outline the method for converting the amount of product used to grams of active ingredient (gai) applied.

Product Type 1 – A dry product with the guarantee expressed as percent weight/weight (%)

Example: Applicator added 1 kg. Senator® 70WP Fungicide to the spray tank.
Guarantee is expressed as a percentage (%) as found on the primary display panel

Calculation:

Senator® 70WP is 70% active ingredient thiophanate-methyl.
 70% of 1 kg = $0.70 \times 1 = 0.7$ kg. active ingredient was applied

To express this as grams of active ingredient:

1 kg = 1000 g, therefore, 70 % of 1000 = $0.70 \times 1000 = 700$ gai was applied

Product Type 2 – A liquid product with the guarantee expressed as grams/litre (g/L)

Example A: The applicator added 1 L of Heritage MAXX® fungicide to the spray tank.
Guarantee is expressed as grams of active ingredient per litre as found on the primary display label
Heritage MAXX® contains 95 g active ingredient azoxystrobin per litre (95 g/L)

Calculation A: The product contains 95 g of active ingredient in each litre, therefore, $95 \text{ g/L} \times 1 \text{ L} = 95$ gai

Example B: The applicator added 250 mL of Heritage MAXX® to the spray tank.

Calculation B: The product contains 95 g of active ingredient in each litre.

First convert millilitres (mL) to litres (L): 1 L = 1000 mL, therefore, $250 \text{ mL} = 250/1000 = 0.25 \text{ L}$

Now multiply by the gai/L to calculate the gai applied: $0.25 \text{ L} \times 95 \text{ gai/L} = 23.75$ gai

Product Type 3 – A liquid product with the guarantee expressed as a percentage (%)

Example A: The applicator added 1 L of Primo MAXX to the spray tank. Primo MAXX is 11.3% trinexapac-ethyl

Calculation A:

STOP! You cannot convert a % of a liquid directly to gai. You must find the product guarantee presented as gai/L by referencing summary tables or by calling the manufacturer. The actual guarantee for Primo MAXX® is 120 gai/L
The product contains 120 g of active ingredient in each litre, therefore, $120 \text{ g/L} \times 1 \text{ L} = 120$ gai

Calculation B:

The applicator added 250 mL of Primo MAXX® to the spray tank. The product contains 120 g of active ingredient in each litre. First convert mL to L. 1 L = 1000 mL, therefore, $250 \text{ mL} / 1000 = 0.25 \text{ L}$

Now multiply by the gai/L to calculate the gai applied: $0.25 \text{ L} \times 120 \text{ gai/L} = 30$ gai

Transferring total active ingredients applied to the Annual Report – Pest Control Product Usage:

The Annual Report, as specified by O. Reg. 63/09 requires all active ingredients be expressed in kilograms (kg).
Total all active ingredient gai applied during the season and divide by 1000 to determine total amounts applied expressed in kg.