



Application Rate Cheat Sheet

Fertilizer, seed, pesticide, and irrigation all reduce to the same shape: a label rate times an area, in whatever unit the label actually specifies. One reference for reading any application rate correctly.

Fertilizer, seed, and pesticide labels all specify a rate, but the units and basis differ product to product, per 1,000 square feet, per acre, sometimes per gallon of carrier. Getting the conversion right is the difference between correctly dosing a property and over- or under-applying a regulated product.

The shared math: label rate times area, in the label's own unit

A 5,000 sq ft treatment area at a 3 lb per 1,000 sq ft fertilizer label rate needs 15 lb of product (3 times 5,000/1,000). The identical area at a 4 lb per 1,000 sq ft seed rate needs 20 lb. At a 2 per 1,000 sq ft pesticide rate, it needs 10 units. Same area, same basic conversion, three different products and three different quantities, because each has its own label rate.

Irrigation runtime uses a different shape entirely

Irrigation does not scale off area at all, it scales off precipitation rate and a target depth. At a 0.5 in/hr precipitation rate and the standard 1 in/week target depth, runtime comes to 120 minutes. Doubling the treatment area does not change the runtime, a sprinkler zone covers whatever area it covers, the runtime is about hitting a target depth of water, not about scaling to a square footage.

Aeration and overseeding combine two different rates in one job

A combined aeration-and-overseeding job runs two separate calculations that happen to share the same area input: aeration time from the equipment's coverage rate (5,000 sq ft at 2,000 sq ft/hour of aerator coverage takes 2.5 hours) and seed quantity from the seed's own label rate (the same 4 lb per 1,000 sq ft rate as the standalone seed calculation, 20 lb needed). Treating this as one combined "aeration and seeding rate" instead of two separate calculations sharing an area input is a common way one of the two numbers gets estimated instead of calculated.

Why getting the basis wrong matters more than getting the math wrong

The arithmetic (rate times area, adjusted for units) is simple. The actual risk is applying an acre-basis rate as if it were a 1,000-sq-ft-basis rate, or the reverse, a mistake that is a 43.56x error (one acre equals 43,560 sq ft), not a rounding error. Every engine in this cluster asks explicitly which basis the

label specifies before running the math, because assuming the wrong basis produces a confidently wrong number rather than an obviously wrong one.

Key takeaway. Every application rate reduces to label rate times area, but the basis (per 1,000 sq ft vs per acre) has to match the actual label, not be assumed. Irrigation runtime is the exception, it scales off precipitation rate and target depth, not area.

Assumptions

- The worked example uses a 5,000 sq ft treatment area at three different per-1,000-sq-ft label rates to show the shared math across products.

Sources

- Standard product-label rate basis conventions (per-1,000-sq-ft and per-acre) used across turf and lawn-care products

Frequently asked questions

What happens if the label rate is given per acre instead of per 1,000 sq ft?

The area needs to be converted to acres first (area in sq ft divided by 43,560), then multiplied by the per-acre rate. Every application-rate engine on this site asks for the rate basis explicitly and handles the conversion internally, rather than assuming one basis and silently misapplying a label given in the other.

Does container size matter for how much to buy?

Yes, the raw product quantity (in pounds or the label's stated unit) is a separate number from how many bags or containers to purchase, since containers come in fixed sizes and the purchase quantity has to round up to whole containers, not stop at the exact calculated amount.

Why does irrigation runtime not scale with area the way the others do?

Because a sprinkler zone's precipitation rate already accounts for the area it is designed to cover, running it longer increases the depth of water applied to that same fixed area, it does not extend the covered area. Runtime is solved for target depth, not for area, which is why it uses a fundamentally different formula from the other application-rate engines.

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