

Fertilizer Injector Flow- through Test

Date Tested: _____ Injector Serial #: _____ Initials: _____

Steps:

1. Set fertilizer injector to 1:100 ratio.
2. Make sure there are no bubbles in suction tube. (Place suction tube in bucket of water and run injector until bubbles are out- a few minutes.)
3. Fill graduated cylinder with water up to 500ml. (Water represents stock solution)
4. Place injector suction tube into graduated cylinder.
5. Open water valve, place hose end into bucket, and add water to the fill line. Fill to 20L.
6. Remove suction tube from graduated cylinder and determine how much solution was used from the graduated cylinder.

Calculations:

Calculations determine how much solution was injected.

1. Subtract final reading from 500ml. This is the amount of **solution injected**.

Example: 500ml (start volume) minus 290ml (remaining volume in graduated cylinder) equals 210ml (volume solution injected)

$$500\text{ml minus } 290\text{ml} = 210\text{ml}$$

2. Divide the total amount collected at the end of the hose (20L) by the amount injected from the graduated cylinder. This is the injected ratio.

Example: 20,000ml (volume collected in bucket at the end of the hose) divided by 210ml (volume of solution injected) equals 95.2 (injector ratio)

$$20,000\text{ml divided by } 210\text{ml} = 95.2$$

Note: 1:100 = 1.00% 1:50 = 2.00% 1:200 = 0.50% 1:95.2 = 1.05%

Smith fertilizer injectors are pre-set at desired ratio through manufacturer

Items needed for test: 2 buckets (one with fill line 20L), graduated cylinder, pencil

References & Credits: *Flow- through Check* prepared by Missy Bidwell, Grower & Andy Leed, Manager, and William Thompson, Grower-specializing in injector maintenance, Cornell University