CALIBRATING A SEEDER

To calibrate any seeding machine, two things must be known:

1. amount of seed used (S)
2. area covered in acres (A)

Amount of seed collected from machine covering a known area

The seeding rate (SR) is calculated from $\frac{S \text{ (amount of seed used)}}{A \text{ (area covered in acres)}}$

A = area covered in square feet / 43,560 ft^2 in one acre

I. Determining Amount of Seed Used:

Place a collection device at seed outlets. Collect and weigh the seed.

II. Determining Area Covered in Acres:

A. Measure seeding width of machine used
Pull the machine for a known distance

Example: a 7' wide drill pulled 100' covers 700 square feet (7' x 100' = 700 ft^2)

B. Measure the distance around the drive wheel and turn the wheel a given number of times for a total distance

Example 1

A drill with a 7 foot wide seeding width is pulled 100 feet with 0.25 lbs of seed dispensed. What is the seeding rate?

$\frac{S \text{ (amount of seed)}}{A \text{(area covered in acres)}}$

Seeding rate = $\frac{0.25 \text{ lb}}{0.016 \text{ acre}}$ = 15.6 lbs/acre

7' seeding width x 100' distance = 700 ft^2

Area in acres = $\frac{700\ ft^2}{43{,}560\ ft^2 / \text{acre}}$ = 0.016 acres

Example 2

A cyclone seeder with a 12 foot seeding width dispenses 0.12 lbs of seed in 100 feet. What is the seeding rate?

Seeding Rate = $\frac{\text{S(amount of seed)}}{\text{A (area covered in acres)}}$

$= \frac{0.12 \text{ lb}}{0.028 \text{ acres}} = 4.3 \text{ lbs/acre}$

$12 \times 100 = 1200 \text{ ft}^2$

$\frac{1200 \text{ ft}^2}{43560 \text{ ft}^2/\text{acre}} = 0.028$ acres

Example 3

Three pounds of seed were placed in a cyclone seeder with a 12 foot seeding width. Seed was sufficient to cover a distance of 1,000 feet. What is the seeding rate per acre?

Seed = 3 lbs

Seeding rate = $\frac{3 \text{ lbs of seed}}{0.28 \text{ acres}} = 10.7$ lbs/acre

Area seeded = 12' seeding width x 1,000' length
$= 12{,}000 \text{ ft}^2$

Area in acres = $\frac{12{,}000 \text{ ft}^2}{43{,}560 \text{ ft}^2/\text{acre}} = 0.28$ acres

Area

Acre = 4,840 square yards = 43,560 square feet = 160 square rods

Length

Rod = 16.5 feet = 5.5 yards

Mile = 1,760 yards = 5,280 feet