

### What it does

When seeding rate is high, plant count is high and crop stand becomes too dense.

### Why and where it occurs

Farmers often use high seed rates due to poor seed quality, to compensate for losses to rats, birds and snails and to increase crop competition with weeds.

Crops can be surface broadcast (wet or dry); drill seeded (using machines) or broadcast and incorporated when sown on dry fields. Higher seed rates are usually used if seed is broadcast. Pre-germinated seed is typically used when wet direct seeding. Direct seeded fields tend to have greater problems of lodging, especially when the seed is surface sown. For good establishment, the fields have to have good water management and be more level. When broadcast, fields can have patches of either too many or too few plants depending on the skills of the broadcaster and the soil conditions where the seed lands.

### How to identify

Check the field for the following:

- High plant count (e.g., > 250 plants per square meter)
- When too close, plants can have thin stems and possibly lodge
- Seed rates are typically adequate between 40 to 60 kg per ha.

The number of seeds in each 10 cm x 10 cm square multiplied by the thousand grain weight equates to the estimated seed rate (kg per ha)



The pattern of damage is uneven in patches across the field.

Various problems causing problems of crop establishment (e.g., cloddy soil, seed too deep, soil too soft at seeding, poor emergence in low spots in fields, heavy rainfall at seeding, soil crusting, poor seed quality, low seed rate, water stress, muddy water at seeding, clogged seeder and/or pests such as ants, birds and rats that remove seed at planting).

To confirm cause of problem, check or ask a farmer about seed rate.

### Why is it important

When plants are too close together the stems are often weak which can result in lodging and yield loss during heading.

Economic costs can be direct in terms of yield lost due to poor crop stand (too many or too few plants) or through the increased cost of seed when high seed rates are used.

### How to manage

- \* For good establishment, manage water and ensure leveled water, allow water to settle.
- \* Ensure an appropriate seed rate with even distribution of good quality seed (i.e., high germination and vigor).
- \* Crop stand should be of the order of 100-200 plants per m<sup>2</sup>, use seed rates between 40-75 kg/ha depending upon method of sowing.

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