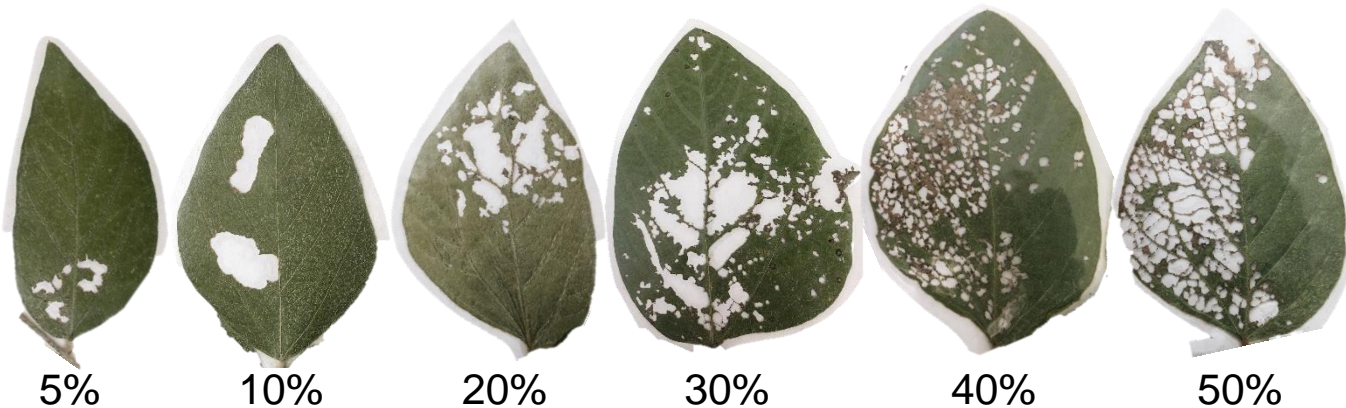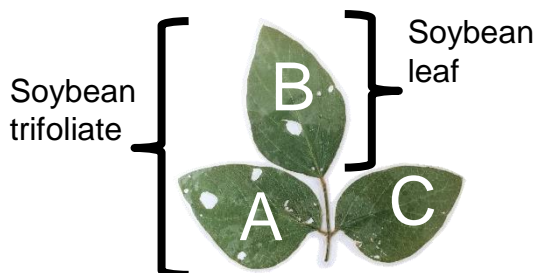# Estimating Percent Leaf Defoliation Exercise

There are many different insects that defoliate leaves of soybean in Ohio including Japanese beetle, bean leaf beetle, grasshoppers, and a number of caterpillar species. Damage patterns from defoliation may vary, but all remove leaf area. In order to determine when treatment is necessary, it is important to be able to estimate percent defoliation. Estimating percent defoliation can be difficult and it is easy to over-estimate!

Estimating percent leaf defoliation:

1) Each soybean trifoliate has 3 leaves labeled A, B and C (on the back).

2) Identify the leaf that **has the most defoliation** for estimating percent defoliation in this exercise.

3) Use the guide below to determine if the area of the defoliation on the leaf is less than 5%, 10%, 20%, 30%, 40% or 50% or more.

4) Repeat the exercise with additional trifoliates.

Soybean leaf

Soybean trifoliate

B

A

C

5%   10%   20%   30%   40%   50%

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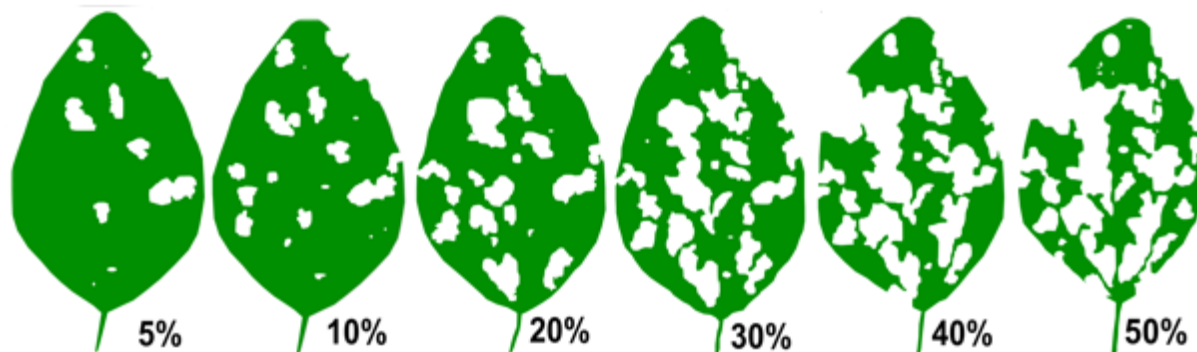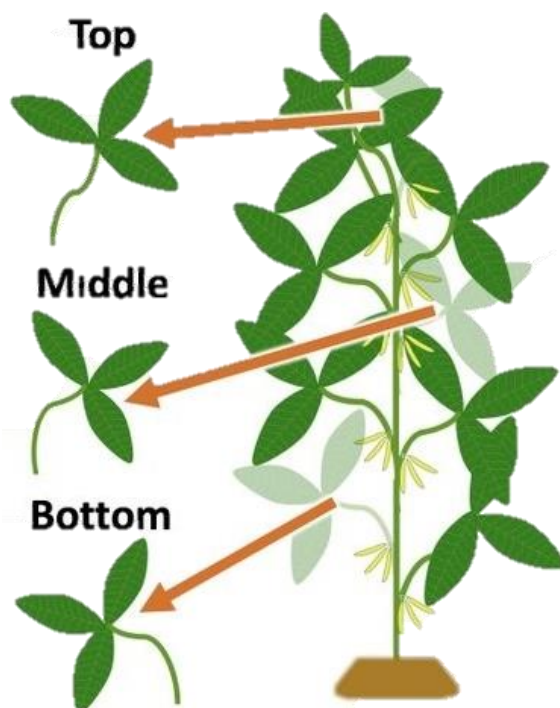COLLEGE OF FOOD, AGRICULTURAL, AND ENVIRONMENTAL SCIENCES

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Steps to Calculate Defoliation in the Field

1. Choose 40 plants from locations throughout field (don't focus just on edge)

2. Remove a trifoliate from the top, middle, and bottom sections of each plant

3. On each trifoliate remove the most and least damaged leaf; keep the mama-bear leaf

4. Look at all your mama-bear leaves and estimate defoliation based on these (use guide)

Top

Middle

Bottom

5%   10%   20%   30%   40%   50%

THRESHOLD LEVELS

V-stage: 30%
R-stage: 20%