CRITICAL INFORMATION FOR EFFICACY TRIALS

1. Primary contact, institution and state where conducted
2. Crop or substrate
3. Crop variety
4. Planting or transplanting date for annual crops
5. Application date(s)
6. Stage of crop and pest at each application timing
7. Scientific name of pest (genus and species, if possible)
8. If inoculated/infested, how and when
9. Application method*
10. Application equipment
11. Spray volume
12. Product(s), including formulation
13. Product application rates (include units)
14. Additives (include rate of additive and units)
15. Weather conditions during application
16. Soil type, if a treatment(s) applied to soil or seed
17. Soil temperature, if a treatment(s) applied to soil or seed
18. Evaluation date(s)
19. What was rated? - plants, leaves, fruits, etc.
20. How was it rated? - control, severity, count, yield, etc.
21. Rating scale - %, number/leaf, bu/A, etc.
22. Phytotoxicity (and if observed, what is acceptable level?)
23. Information on infection/infestation periods (severity, initial density, duration)
24. Comments on factors that may have influenced results (weather, applied curative, antagonism, mis-applied, etc.)

Optional Information

1. Age or planting date for perennial crops
2. Weather information during trial
3. Nozzle type and pressure
4. Maintenance treatments
5. Previous crop

*if banded – describe if proportional band (band width/row width X broadcast rate) or if rate per acre is concentrated in a band

THINGS TO CONSIDER WHEN CONDUCTING A TRIAL

A. Trial Objectives & Experimental Design
- Ensure that objectives are clearly stated, unambiguous, and achievable within resources available.
- Include only those treatments necessary to meet objectives.
- Use a randomized design and unbiased assessments. (NOTE: There is no replication without randomization.)
- In general, increase replication to detect finer differences.

B. Site Selection & Uniformity
- Good site selection is key to a successful trial.
- Limit the effects of trends in fertility, soil moisture, infection/infestation levels, etc. by careful use of blocking.
- Make all treatments under same conditions.
- Avoid spray drift.

C. Assessments
- The 'right' data represent the true situation of each plot.
- Subjective: preferable to use rating scale of 0-100%
  - Use whole plot, plants, plant part, etc., depending on obj.
  - Large differences may be detected using whole plot scores.
  - Small, subtle differences are more likely to be detected using multiple plants or leaf samples.
- Objective: measurements or counts usually more appropriate
  - use when pest pressure is low or for pests where number of 'organs' affected is appropriate
- Do not use indices or classes except when standard for quality factors (e.g. grades of fruit) or when all researchers for the commodity use same standard index
- Take several ratings during the trial period, but no more than necessary to meet the objectives.
- Make observations on crop safety.
- Immediately de-randomize ratings to detect possible errors.

D. Reports
- Understandable – objectives and conclusions are clear
- Well-arranged – tables and graphs (with numbers)
- Objective – avoid use of superlatives
- Complete – see list on reverse side
- Timely

FAILURES ARE ACCEPTABLE – document reasons in the report (e.g. no pests, wrong rate used, oversprayed, etc.). Report trial as such without making assumptions as to what might have happened.