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Adjuvants page 107

Katherine Ghantous
UMass Amherst, kghantou@umass.edu

USING ADJUVANTS WITH CRANBERRY PESTICIDES 2024 - 2026

Prepared by Martha M. Sylvia and Katherine Ghantous

Always check the specific label of the product you are applying for adjuvant requirements and recommendations. In general, adjuvant rates are based on the volume of water used for application or on an amount per acre, and are not related to the rate of pesticide being used. Depending on the type of adjuvant, they can help pesticides be more effective by giving better coverage, better penetration, or better adhesion. Some products suggest using an adjuvant to improve efficacy, while others may not work at all without an adjuvant included! Contact UMass Extension and/or your Ag Supplier for further guidance on which products to use for your particular situation.

FUNGICIDES

- **Abound**: Adjuvants may be added.
    - Do not use adjuvants that contain silicone (aka organosilicone).

- Chlorothalonil: **Bravo** already has Spreader-Sticker in it! Using extra could cause more run-off, reduce retention, and cause injury. The other formulations generally also have an adjuvant added.

- **Indar**: Adjuvants may be added.
    - Do not use penetrants.
    - For NIS, 0.25% v:v (or 1 pt/A if chemigating) is sufficient.
    - For organosilicones, a spray mix concentration of 0.05% v:v (or approx. 1.5 pt/A if chemigating) or less is sufficient.

- **Indar + Abound Mixtures**: Adjuvants may be added.
    - Do not use adjuvants that contain silicone (aka organosilicone).

- **Mancozeb products**: Adjuvants may be added.
    - Use a spreader-sticker to improve deposition / durability.

- **Proline**: It is recommended to use a non-ionic surfactant (NIS) at the "lowest recommended rate" for the adjuvant product. For most NIS products, 1 pt/A is typically the lowest rate. Check your product label for details.

- **QuadrisTop**: Adjuvants may be added.
    - Do not use high rates of silicone/organosilicone-based or oil containing adjuvants at high temperatures.
      Do not exceed 0.125% v:v adjuvant (4 pt/A if chemigating).

INSECTICIDES - Adjuvants are recommended with:

- Intrepid, Confirm, and DiPel
    - A spray adjuvant should be used.
    - Improves: deposition, redistribution, and weatherability
- Delegate, Altacor, and Avaunt
    - Recommended to improved performance due to cranberry's dense canopy and waxy leaves.

HERBICIDES - In general, adjuvants are not needed for PREemergence (soil-active) herbicide applications, and adjuvants are recommended or required for use with POSTemergence herbicide applications.

COC = crop oil concentrate, NIS = Nonionic surfactant

Callisto *(mesotrione)*:

- Chemigation postemergence = 1 - 4 pt/A NIS or COC
- Spot-treatments postemergence:
  - NIS (0.25% finished spray volume) = 2 tsp or 0.3 oz/gal
  - COC (1% finished spray volume) = 2.5 Tbsp or 1.3 oz/gal

QuinStar *(quinclorac):* Chemigating postemergence

- 2 pt/A COC

Poast *(sethoxydim):* postemergence (grass herbicides don't have and preemergence activity)
It is **highly recommended** to use an adjuvant with grass herbicides.

- Boom or aerial applications - 2 pt/A COC
- Spot-treatment COC (1% finished spray volume) = 1.3 oz or 2.5 TBsp / gal

*** * Intensity One** *(clethodim)* is the **ONLY grass herbicide** that has 24C for chemigation!
It is **highly recommended** to use an adjuvant. If not included, you will have poor efficacy!

Chemigation postemergence = 1 – 4 pt/A NIS

Select Max, Intensity, and others *(clethodim)* **NOT for chemigation**
It is **highly recommended** to use an adjuvant with grass herbicides!

- SelectMax and Intensity One
  - Spot-treatment/Boom/Mist blower/Aerial, etc. postemergence = NIS at 0.25% v:v
- Intensity
  - Spot-treatment/Boom/Mist blower/Aerial, etc. postemergence = COC at 1% v:v

MEASURES AND CONVERSIONS CHART

Prepared by Hilary A. Sandler

Liquid Measures

1 oz = 2 tablespoons = 6 teaspoons = 29.6 ml
1 cup = 8 oz
1 pint = 2 cups = 16 oz
1 quart = 2 pints = 4 cups = 32 oz
1 gallon = 4 quarts = 8 pints = 16 cups = 128 oz
1 cup = 237 ml
1 pint = 473 ml = 0.473 liters
1 quart = 946 ml = 0.946 liters
1 gallon = 3.78 liters = 3,785 ml
1 acre-foot water = 326,000 gallons
0.1 inch water per acre = 2717 gallons
1 fl. oz/gal = 7.81 ml/liter

Mass Conversions

1 oz = 28.4 grams
1 lb = 454 g = 0.454 kg
1 kg = 2.2 lb = 35.2 oz
1 oz/gal = 7.49 g/liter

Temperature Conversions

°F = (9/5 °C) + 32 (guesstimate: double °C, add 30)
°C = 5/9 (°F-32) (guesstimate: subtract 30 and halve)

Length and Area Conversions

1 acre = 43,560 sq. ft = 0.405 hectares
1 hectare = 2.47 acres
1 meter = 1.09 yards = 3.28 feet = 39.4 inches
1 yard = 3 feet = 36 inches = 0.914 meters
1 cm = 0.39 inches
1 inch = 2.54 cm
1 rod = 16.5 ft
1 sq. rod = 272.2 ft^2
1 square meter = 10.76 ft^2
1 cubic meter = 35.29 cubic feet = 1.30 cubic yards
1 inch layer of sand per acre = 134 cubic yards

Other Conversions

pt/A * 0.473 = liters/A
pt/A * 1.167 = liters/ha
lb/A * 0.454 = kg/A
lb/A * 1.12 = kg/ha
gal/A * 3.78 = liter/A
gal/A * 9.35 = liter/ha
ton/A * 2,242 = kg/ha
bbl/A * 0.112 = Mg/ha
g/ft^2 * 0.958= bbl/A
1 fl. oz/A *73.1 = ml/ha