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 a per acre rate 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 adjuvant are recommended or required for use with POST emergence herbicide applications.

COC = crop oil concentrate, NIS = Nonionic surfactant

**Callisto** (*mesotrione*): POSTEMERGENCE
- Chemigation = 1 - 4 pt/A NIS or COC
- Spot-treatments
  - 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

**Intensity and Intensity One ONLY** (*clethodim*) **24C for chemigation!**
It is highly recommended to use an adjuvant. You will have little efficacy if you do not include one!
- 1 – 4 pt/A NIS for Intensity One
- 1 – 4 pt/A COC preferred for Intensity

**Poast** (*sethoxydim*): POSTEMERGENCE
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

**QuinStar** (*quinclorac*): Chemigating POSTEMERGENCECNCE
- 2 pt/A COC

**Select, SelectMax, Intensity, Intensity One, and others** (*clethodim*) POSTEMERGENCECNCE
It is highly recommended to use an adjuvant with grass herbicides!
- NIS at 0.25% v:v for SelectMax and Intensity One
- COC at 1% v:v for Select 2EC and Intensity