



## AgroVantage<sup>®</sup> System Products Mixing Guidelines

Conklin's utilizes the highest quality raw materials to produce the high quality finished products you have come to trust and rely upon. AgroVantage System products are typically all compatible with other AgroVantage System products and most agricultural chemicals. However not all combinations and concentrations have been tested. It is always advised to perform a jar test prior to large scale mixing.

### W-A-L-E Mixing Method

Unless specific directions are provided on the chemical label follow the W-A-L-E method when mixing different formulations together in the tank:

1. **Read the Chemical Label**
2. To the diluent (usually water or fertilizer)
3. Add water conditioners, pH adjusters if required and agitate.
4. Add **Wettable** powders and Water-dispersible granules.
5. **Agitate** the mix thoroughly. Always make certain each component is completely dispersed or dissolved before adding the next product/component.
6. Add **Liquid**, surfactants, flowables and suspension concentrates.
7. Add **Emulsifiable** concentrates last.

### Compatibility Testing (Jar Testing) Procedure

When mixing two or more products always check the label for any warnings about incompatibility. Use the "jar test" to determine if the components of a pesticide mixture are chemically and physically compatible.

1. **Read and Follow Directions on the Chemical Label**
2. Use a clean, clear glass quart jar.
3. Add 1 pint of water or carrier from the same water/carrier source you will be using for tank mixes. Water conditioning/pH adjustment must be done before adding chemicals.
4. Add the components in correct proportions in the W-A-L-E order (see above). For liquid formulations, use a teaspoon measure for each pint/100 gallons of final solution mixture. For dry formulations, use a tablespoon for each pound/100 gallons of final solution mixture. Make certain each component is completely dispersed or dissolved before adding the next product/component.
5. Once all of the components are added and thoroughly mixed, allow the test to stand for 15 to 60 minutes (the longer time the better). If you are planning to use this solution over several days, let it stand for the same number of days. After this period visually inspect for signs of incompatibility.
6. If the contents heat up, form clumps, scum or other solids, they are NOT compatible.
7. If the mix is not compatible and you did not use a compatibility agent on the first test repeat the process with a proportionate amount of Kombind<sup>®</sup> compatibility agent.

**Warning:** Chemical compatibility does not guarantee that the mixture will perform as expected. Combinations of some active ingredients can cause plant damage or phytotoxicity. In some cases, mixing chemicals together may cancel their effectiveness. Consider applying the mixture at the labeled rate to a test area in the field and inspect for any damage.

**General Mixing Precautions:**

1. **Read and Follow Directions on the Chemical Label**
2. Begin with adding water or other carrier to your tank before adding chemicals according to label directions or the W-A-L-E method.
3. Typically, add the smaller amount to the larger amount
4. Agitate the solution thoroughly when mixing
5. Always perform a jar test when combining a solution you have not successfully mixed previously or have changed carriers or source for any component.
6. Individuals using agricultural chemicals are responsible for ensuring that the intended use conforms to the product label and complies with current regulations. **ALWAYS READ AND FOLLOW LABEL DIRECTIONS.**
7. Always wear the proper Personal Protection Equipment indicated on the chemical labels when working with agricultural chemicals.
8. Do not mix complexed boron directly with other micronutrients prior to adding to water or fertilizer carrier.
9. Apply mixed spray solutions as soon as possible. Delays in applications may result in it falling apart.

**Items that can influence mixing and compatibility:**

It is always advisable to perform a jar test even if you have successfully mixed the components previously as the following items can influence mixing.

1. Temperature – cold fertilizer, water, UAN, etc. will require more mixing to completely dissolve and mix completely. If not completely mixed, components may settle to the bottom of the tank.
2. pH – high or low pH water, fertilizer and chemicals can result in mixing/compatibility challenges. If using water as carrier, **adjust pH of water before adding any chemicals or other components.**
3. Water, fertilizer, UAN, and other carriers can only keep a certain amount of components in suspension, once this threshold is reached, components will not remain in suspension.
4. UAN can vary from load to load. When obtaining multiple shipments and shipments from multiple sources, always retest compatibility before large scale mixing.
5. Mixing – make certain to completely mix each component thoroughly before adding the next component. The solution sloshing around in the tank when moving is not considered adequate mixing.
6. Chelating agents – Feast® micronutrients are chelated with EDTA and HEDTA to protect them from tank mix incompatibilities. Micronutrients with other lower quality chelating agents may not mix well with orthophosphate fertilizers and other crop protection products.

**It is the responsibility of the farmer/applicator to perform a jar test before large scale mixing. Conklin retains no responsibility for on-farm mixing.**