

Rome Ethredge  
Seminole County  
207 E. Crawford St. • Donalsonville, Georgia 39845  
Web Address: [caes.uga.edu/extension/seminole](http://caes.uga.edu/extension/seminole)  
e-mail address: ethredge@uga.edu • 229-524-2326 Phone • 229-524-2856 Fax

## Seminole CropNews

### Chemical Mixing Problems

April 18, 2014

Agricultural chemical mixing problems sometimes occur and we end up with a mess in our spray tanks. Chemicals sometimes don't mix well and when we mix several products together we increase the chance of a problem happening. We call this incompatibility. Sometimes just paying careful attention to the mixing order and the way you mix it in can make a big difference. Many agrichemicals have the preferred mixing procedures on the labels. If they don't then go by the W-A-L-E-S method pictured below.

If you are considering mixing more than 2 agrichemicals together or doing an unusual mix, it would be good to do a jar test to see what will happen before mixing up a 500 gallon load. I recently helped a grower do this with a mix we were a little worried about and it turned out fine as you can see in the photo of me looking and the good mixture we got. See instruction sheet and photos below. With the Jar Test Kit that most county agents have thanks to UGA Extension weed scientists and Syngenta, we can figure the amounts precisely, like we will have in the tank later, to see if all things will mix well.

## **TANK MIXING INSTRUCTIONS** **W-A-L-E-S METHOD**



**W**ettable powders and water  
dispersible granules

**A**gitate tank mix thoroughly

**L**iquid flowables and suspensions

**E**mulsifiable concentrate formulations

**S**urfactants/Solutions

Some herbicide labels list a specific mixing sequence. In absence of specific directions, a recommended sequence for adding pesticide formulations to a tank partially filled with water is the **W-A-L-E-S method**. Each ingredient must be uniformly mixed before adding the next component.

## Jar Test PROCEDURE Kit (for liquid pesticide formulations)

KIT Includes: Box, 4 - (12 oz/354 ml) bottles, gloves, syringes (various sizes) and small 8 oz measuring cup

1. Determine Carrier Rate in Gallons/Ac (GPA)	2. To BOTTLE PROVIDED Add This Much Carrier OZ or ML/CC or Inches			4. Determine Product Rate/Acre of Pesticide and Add to Carrier					3. NIS Adjuvant Concentrations (ml/cc)		
				4 oz	8 oz(1/2 Pt)	16 oz(1 Pt)	32 oz (1 Qt)	48 oz (3 Pt)	0.25% v/v	0.5% v/v	1% v/v
5	2	59	~ 1"	0.37 ml/cc	0.74 ml/cc	1.48 ml/cc	2.96 ml/cc	4.44 ml/cc	0.15 ml/cc	0.30 ml/cc	0.59 ml/cc
10	4	118	~ 2"	0.37 ml/cc	0.74 ml/cc	1.48 ml/cc	2.96 ml/cc	4.44 ml/cc	0.30 ml/cc	0.59 ml/cc	1.18 ml/cc
15	6	178	~ 3"	0.37 ml/cc	0.74 ml/cc	1.48 ml/cc	2.96 ml/cc	4.44 ml/cc	0.44 ml/cc	0.89 ml/cc	1.78 ml/cc
20	8	237	~ 4"	0.37 ml/cc	0.74 ml/cc	1.48 ml/cc	2.96 ml/cc	4.44 ml/cc	0.59 ml/cc	1.18 ml/cc	2.37 ml/cc
25	10	296	~ 5"	0.37 ml/cc	0.74 ml/cc	1.48 ml/cc	2.96 ml/cc	4.44 ml/cc	0.74 ml/cc	1.48 ml/cc	2.96 ml/cc

Directions: Use Bottles, Gloves, Measuring Device(s) provided in kit and follow procedures below:

- 1 Determine Carrier Rate per Acre (GPA)
- 2 Add to BOTTLE PROVIDED Proper OZ, ML/CC or Inches of Carrier (water, nitrogen...) to right of Determined Carrier Rate per Acre (GPA)
- 3 Move to ADJUVANT Concentrations and ADD proper rate of ADJUVANT (% V/V) in ML/CC (Use Syringes). INVERT BOTTLE\* several times
- 4 Determine PRODUCT RATE per acre and add proper amount in ML/CC (Use Syringes). INVERT BOTTLE\* several times
- 4a Add additional tankmix pesticide(s) according to W-A-L-E Guidelines and rates in chart above. INVERT BOTTLE\* several times
- 5 Let mixture sit for 15 minutes and EVALUATE mixture.
- 6 When finished dispose of mixtures properly (i.e. dump in spray tank)

**IF COMPATIBLE** - Chemicals can be used together in the spray tank:

Smooth mixture  
Combines well after inverting bottle

**If incompatibility exists....TRY increased carrier volume, different adjuvant concentration or adjuvant**

**IF INCOMPATIBLE** - Do not mix this combination in the spray tank.

Separation Clumps  
Grainy appearance  
Settles out quickly after stirring (may be OK with good agitation)  
Flakes or crystal formation

1 oz = 29.573 ml or cc

\* DO NOT SHAKE bottle

EMT - December 2022 ver 1



## More Rain.... soggy

April 18, 2014

It's has been a wet April and it's just the 18th. Our normal rainfall for the whole month is 3.8 inches and usually 2.5 by this point in April. But this year we have received 11.25 inches and there's more coming today. It has slowed field operations considerably. Also, we have seen a good bit of erosion in fields and some damage to crops that are up such as corn and snapbeans.

We had some of the fastest falling rain I have seen when we received 4.88" of rain in an hour and 15 minutes on April 7th. Here are some photos of problems.

## Corn is Yellow – Top 4 Reasons

April 18, 2014

Some of our corn is just coming up good but most is at V2 and the oldest is at V5 growth stage. Most of it has a yellow color for several reasons, here are the top 4 in my mind.

Leaching rains have depleted nutrients such as Nitrogen and perhaps Sulfur and it's time to add more but it's too wet to run the spreaders or liquid rigs to put it out.

Another reason is the erratic cool weather, with some very cool nights such as the unseasonable 38.5 degrees F on April 16th at the Donalsonville weather station.

A third reason is the wet soil. The soil is staying so wet that we are losing soil oxygen and that is bad for roots. The plants are affected.

Reason number 4 goes along with the poor growing conditions, nematodes. Damage from nematodes in corn shows up much worse when we have poor growing conditions. Nematodes affect the roots and therefore plant growth and health.

A last reason that we won't count is that where over the top herbicide applications have been made, that many times further yellows corn for a few days as well.



## **Wheat Headed Out and Stem Maggot**

April 18, 2014

Wheat is mostly headed out in deep south Georgia and is looking pretty good. It's a little later than usual this year. You can see that these wheat heads are blooming.



Here we see lots of heads per square foot and that's good. To estimate wheat yields you can use head number and other factors in a calculation. You can link here to an article by Florida Extension Agent Josh Thompson concerning this procedure. <https://nwdistrict.ifas.ufl.edu/phag/2014/04/11/how-to-estimate-wheat-yield/>

Remember that this is a perhaps a very rough estimate of yield.



This is an unusual problem in wheat for us to see, Wheat Stem Maggot. Decatur County Agent, Justin Ballew saw some of this earlier in the week and correctly identified it and I saw some yesterday in a field near the Chattahoochee river here in Seminole County. The maggot apparently bores into the stem at the bottom of the top internode and the grain head dies and turns white and you can pull it out pretty easily. I saw several affected heads in an area yesterday but it was a low overall incidence in the field, it seemed.

UGA Entomologist, David Buntin, says, "Wheat stem maggot is not new. I have seen it occasionally for years. Always at low levels in fields here."



Kansas State University has some information about this pest at this link. <http://entomology.k-state.edu/extension/insect-information/crop-pests/wheat/wheat-stem-maggot.html>



## Question of the Week – Shepherd's Purse

April 18, 2014



The weed I had a photo of last week is Shepherd's Purse (*Capsella bursa-pastoris*). It is a turf grass, garden or pasture weed that we sometimes see, that grows similar to dandelions and has a heart shaped seedpod. I guess it also looks like a shepherd's purse? It is purported to have medicinal values.

Here is this week's question. What is this condition of corn on the plant on the right, that we saw a good bit of last year and we are seeing some again now?



Mitchell county agent Andy Shirley and I were checking out this corn that was washed badly recently.



Later,

A handwritten signature in cursive script that reads "Rome Ethridge".

Rome

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