

## Maximizing Efficacy from POST Herbicides for Palmer amaranth

With the weather finally looking like it will give us a break, many people are gearing up to spray. Most folks are aware of the effect that time of day of application can have on glufosinate (Liberty, Cheetah, etc...) and how to maximize the effects of this herbicide. In a recent test we found that application time of day can also affect many of the PPO herbicides (Flexstar, Prefix, Ultra Blazer, Cobra, etc...) that are commonly utilized for controlling Palmer amaranth.

In recent trials we examined Flexstar, Cobra, Ultra Blazer, Resource, Cheetah (glufosinate), and Cheetah Max (premix of glufosinate and fomesafen) applied at sunrise, noon, and sunset on to 3-6 inch tall Palmer. With Cheetah, we saw the same effect as with past trials using Liberty where Palmer amaranth control drastically decreased at the sunrise and sunset applications in comparison to the application that was made around noon.

With the PPO herbicides we saw a similar, but less drastic effect. Control at the noon application timing was 10-15% better than at sunrise and 5-10% better than at sunset. Of these herbicides, Cobra, Flexstar, and UltraBlazer provided the best control of this size Palmer amaranth.

The most notable result from this study is that though we saw less Palmer amaranth control with glufosinate and fomesafen when applied early and late in the day compared to noon, this was not the case when the two herbicides were tankmixed together. A tankmix of glufosinate and fomesafen (Cheetah Max) provided similar control when applied at all three timings.

We also saw significant injury from each of these herbicides (15-25%). Out of the herbicides mentioned above, Cobra caused the greatest amount of injury. Injury from Cobra was about 5% worse than Flexstar and just slightly worse than that of Ultra Blazer. The premix did not increase injury in comparison to the PPO herbicides alone.

Flexstar – Sunrise

Flexstar – Noon

Glufosinate – Sunrise

Glufosinate + fomesafen – Sunrise

In conclusion, be mindful of the characteristics of the herbicides you are using. Maximizing the efficacy of these herbicides on Palmer amaranth is always important. This is even more the case this spring which has proven to be very challenging. Remember that if you are using just a PPO herbicide or glufosinate alone to control Palmer amaranth that efficacy will be maximized by waiting until the middle part of the day. If you have the option, combining glufosinate with a herbicide like fomesafen can be a very effective way of improving Palmer amaranth control.



