

Continued Evaluation of Weed Control Strategies in Oklahoma Peanut Production Areas

J.W. Weirich and C.R. Medlin
Department of Plant and Soil Sciences

2006 progress made possible through OPC and NPB support

- Management of ALS¹ resistant Palmer amaranth in peanuts will require a good soil residual program, probably involving Valor[®] herbicide.
- Irrigation timing before and after a Dual[®] Magnum or Outlook[®] layby application may impact the ability of these herbicides to control Palmer amaranth. Irrigating one to two days before these products are applied may cause some weeds to begin the germination process and root development prior to the herbicide being applied, thus allowing those weeds to escape the herbicide treatment. Irrigating soon after applying these herbicides will ensure their activation in the soil.
- Postemergence applications of Cobra[®] or Gramoxone[®] Max will effectively control small (less than two-inches tall) Palmer amaranth plants, but should be preceded with a layby application of Dual[®] Magnum or Outlook[®] followed with irrigation.

Palmer amaranth (*Amaranthus palmeri*) continues to be the most troublesome weed across western Oklahoma peanut producing areas. This weed has developed resistance to acetolactate synthase (ALS) inhibiting herbicides, such as Cadre[®], Pursuit[®], and Strongarm[®]. Palmer amaranth is one of the most troublesome weeds in Oklahoma peanut production today due to its rapid growth rate, high competitiveness, long germination period, and high seed production potential.

As a continued effort to help peanut producers develop new methods to control this weed, trials were established near Erick, Ft. Cobb, and Weatherford, Oklahoma. Herbicide treatments included Prowl[®] H₂O applied preemergent either alone or with

Dual[®] Magnum or Outlook[®]. Postemergent herbicides included Gramoxone[®] Max, Cobra[®], or Ultra Blazer[®] applied alone or sequentially with Dual[®] Magnum or Outlook[®]. The layby applications of Dual[®] Magnum or Outlook[®] were evaluated as a means for extending the soil residual activity of our herbicide programs, thus placing less reliance on postemergent herbicides currently available.

Prowl[®] H₂O applied alone did not control Palmer amaranth, but controlled most other annual grasses and broadleaf weeds. Dual[®] Magnum or Outlook[®] applied preemergent with Prowl[®] H₂O adequately controlled Palmer amaranth during the first one to three weeks after emergence at the various locations. Early postemergent applications of Gramoxone[®] Max, Cobra[®], or Ultra Blazer[®] applied with Dual[®] Magnum

¹ ALS = Acetolactate Synthase

or Outlook® controlled Palmer amaranth at least 90 percent of the time, however within one to two weeks after application, retreatment for newly emerging Palmer amaranth seedlings was necessary. For this reason, we believe that layby applications of Dual® Magnum or Outlook® should

be applied four to five days prior to application of Gramoxone® Max, Cobra®, or Ultra Blazer®, and followed with an irrigation. This should allow enough time for Palmer amaranth seeds, which have imbibed water, to germinate and plants to emerge before the postemergent herbicide is applied.

**Partners in
Progress**
PEANUTS