WISCONSIN-Managing Volunteer Wheat in Late-Summer Seeded Alfalfa

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Wheat is an important agronomic crop in the rotation of many midwestern states, and is often followed by late-summer seeded alfalfa. Wheat seed not collected in the combine becomes a weed and impacts alfalfa establishment and productivity, especially in no- and reduced till fields. Previous Wisconsin research has shown volunteer wheat can reduce alfalfa density by ≤50%, resulting in shorter stand life and reduced forage quality the following spring. Fortunately, a well-timed herbicide application (e.g., Poast Plus to wheat 6-7" tall) during alfalfa establishment in the fall can alleviate this impact and provide excellent control (see photo). This 2008-2010 research led to further questions about managing volunteer wheat in alfalfa, such as:

- Does glyphosate (Roundup) in Roundup Ready Alfalfa or imazamox (Raptor) need to be applied at the same time as Poast Plus to maximize success?
- Is there a level of volunteer wheat density that would have limited impact on alfalfa density and improve forage productivity and quality for dairy-based systems?

To address these questions, a 2015 Wisconsin study was initiated at three locations comparing the effectiveness of Roundup (glyphosate), Raptor (imazamox), and Poast Plus (sethoxydim) in controlling volunteer wheat in alfalfa. Results confirm volunteer wheat can impact summer seedings of alfalfa. Applications of Roundup or Poast Plus to 4-6" tall volunteer wheat provided the best control in these experiments 28 days after treatment and the following spring with minimal amounts of volunteer wheat in the total forage. The volunteer wheat does have value as a forage, its presence can increase milk production, however, this impacts alfalfa stem density and long-term stand life. We recommend farmers aim to keep volunteer wheat <35% of the total forage. This would translate to 70% control of volunteer wheat 28 days after treatment. To obtain these levels of control, many herbicides or other techniques could be utilized. These recommendations will result in high levels of high quality forage production while protecting stand establishment and longevity.