



Cornell Hemp

<http://hemp.cals.cornell.edu>

2021 Weeds and Weed Management

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The problems with weeds

Weeds can interfere with all crops directly via competition for water, light and nutrients, which can impact crop growth and yield. Weeds can also impact crops, indirectly, by altering microclimates that can impact disease development, harbor pests and pathogens, and interfering, physically with crop harvest.



Integrated weed management (IWM)

Integrated Weed Management (IWM) is an approach to managing weeds using multiple control tactics. The purpose of IWM is to include many methods in a growing season to allow producers the best chance to control troublesome weeds.

<https://integratedweedmanagement.org/index.php/iwm-toolbox/what-is-integrated-weed-management/>

Currently, weed control tactics in hemp are limited to cultural and physical strategies, as no synthetic herbicides is registered for use in hemp. Organic herbicides are available, but they must be used with caution as they are burn-down materials and contact with the crop can cause significant damage.

Herbicide labels and rotation restrictions

Herbicides that have been applied in preceding crops may have an impact on hemp growth and development. Consequently, it is important for growers to pay attention to the rotation restrictions listed on pesticide labels. While “hemp” may not be explicitly listed, there may be an “other crop” designation, which would include Cannabis. Scientists at UW-Madison have put together a useful extension presentation describing carryover considerations in hemp.

<https://www.wiscweeds.info/post/herbicide-rotation-restrictions-before-planting-industrial-hemp/>

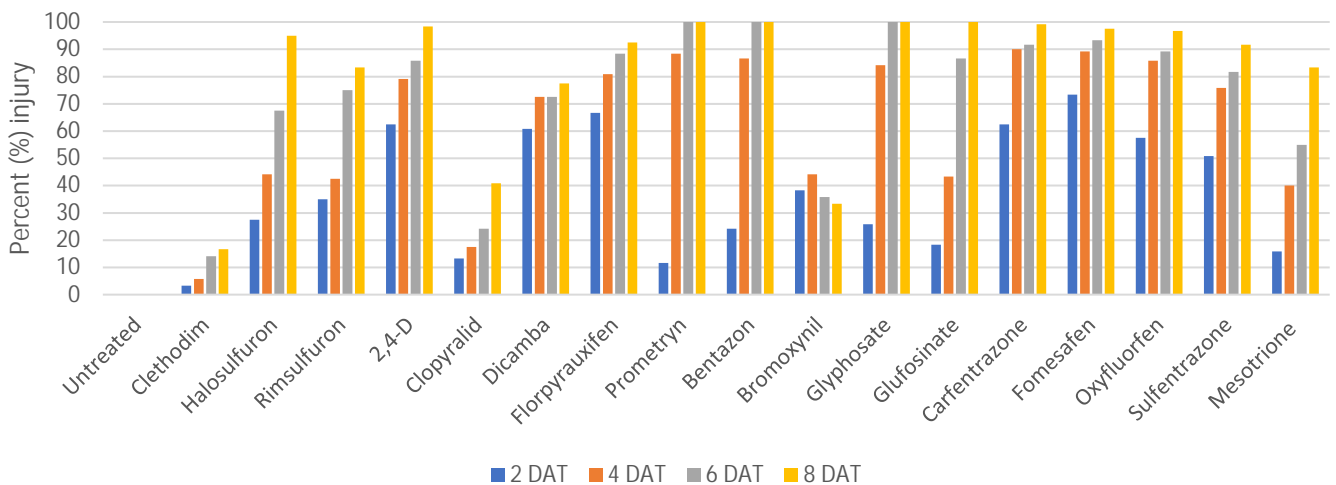


Cultural and physical strategies for managing weeds in hemp

- **Site selection**
 - Avoid fields with high weed densities or perennial species
- **Start clean and stay clean**
 - Manage/harvest clean fields first
- **Planting date selection**
 - Establish your crop before weedy competitors emerge
- **Seedbed preparation**
 - Prepare smooth, even seedbeds to facilitate uniform crop establishment
- **Stale seedbed technique**
 - Stimulate weed seed germination with disturbance or irrigation/rainfall and eliminate emerged seedlings prior to crop establishment
- **Seeding rates**
 - Use appropriate densities to minimize the space that weeds can colonize
- **Transplants**
 - Maximize the height differential between crop and weed to improve competitiveness
- **Cultivation**
 - Keep rows straight and even to maximize performance
- **Plastic mulches**
 - Remember to manage weeds between rows and in planting holes

Weed management research at Cornell

Starting in 2020, the Weed Biology, Ecology and Management lab at Cornell AgriTech will begin conducting research in hemp. Studies will focus on describing herbicide tolerance, identifying herbicides to control hemp escapes in following crops, and describing the competitive interactions between hemp and current (i.e. common lambsquarters) and up-and-coming (i.e. Palmer amaranth) weed concerns in NY.



Preliminary greenhouse results (percent visual injury) looking at industrial hemp tolerance to post-emergence (foliar-applied) active ingredients at 2, 4, 6 and 8 days after treatment (DAT). Formulations and rates will be presented in future extension handouts following additional greenhouse and field studies. Results agree with previously reported observations by Flessner et al. (2020) Crop Science 60:419-427.