



Cornell Hemp

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

2024 Weeds and Weed Management

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Integrated weed management (IWM)

Although hemp has been reported as being competitive with weeds, there is limited scientific data supporting this assertion. Results from USDA CPPM-sponsored research trials (PROJ NO: NYG-632533) suggest that maintaining industrial hemp weed-free for four weeks after emergence has the potential to prevent grain and fiber yield loss from weed competition.

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. A FREE online book (Manage Weeds on Your Farm: An Ecological Approach) describing sustainable weed management practices and how to apply them on farm is available at the Sustainable Agriculture Research and Education (SARE) website <https://www.sare.org/news/manage-weeds-on-your-farm-an-ecological-approach/>. When planting hemp, consider the following strategies:

- **Site selection**
 - Avoid fields with known high weed densities or perennial species, if possible
- **Stale seedbed technique**
 - Stimulate weed seed germination with disturbance or irrigation/rainfall and eliminate emerged seedlings prior to crop establishment
- **Seedbed preparation**
 - Prepare smooth, even beds to facilitate uniform crop establishment
- **Crop quality**
 - Choose varieties with high vigor and rapid growth to minimize the space between plants that weeds can colonize.
- **Minimize weed seed spread**
 - Harvest the cleanest fields first and conduct combine clean out operations to prevent weed seed spread.

Planting hemp in fields that have had excellent weed control success in previous years is beneficial but be sure to follow herbicide label guidelines with respect to rotation restrictions to minimize possible carryover injury and illegal residue limits. If hemp is not specifically listed in the plant-back restrictions section of a label, follow “other crop” guidelines.

More information can be found in the New York State *Cannabis sativa* L. Production Manual <https://hemp.cals.cornell.edu/resources/new-york-state-cannabis-sativa-l-production-manual/>



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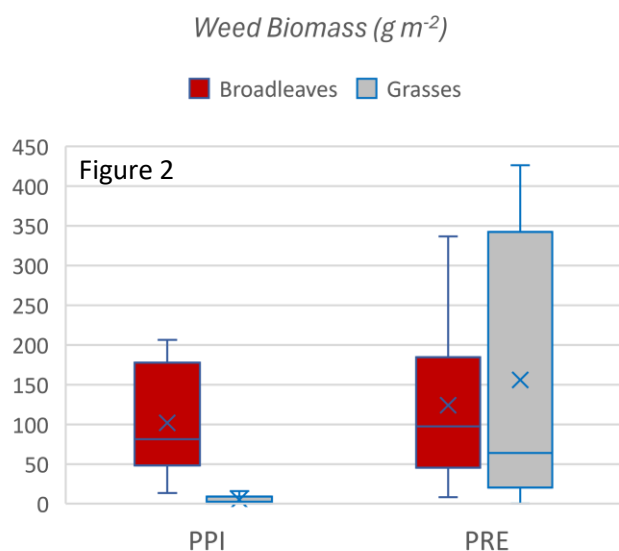
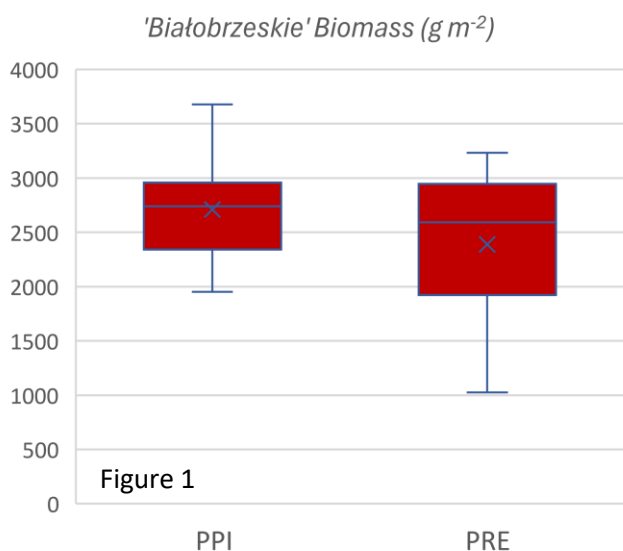
Cornell AgriTech
New York State Agricultural Experiment Station



Agriculture and Markets

Sonalan (ethalfluralin) Registered for use in Hemp

In June 2023, the NYS DEC accepted a supplemental label for Sonalan® HFP (ethalfluralin) use on hemp (which expires on 1 May 2026). Sonalan® HFP is a soil-applied herbicide that is primarily effective for suppressing emerging annual grasses (such as crabgrasses, foxtails, and barnyardgrass), although some annual broadleaf weeds (such as pigweeds, nightshades, and lambsquarters) are also susceptible to control. Sonalan® HFP can be applied at rates ranging from 1.5 to 3 pt/A (0.5625 to 1.125 lb ai/A). Application rates are dependent on soil type; use the lower labeled rates on coarse soils. Sonalan® HFP is limited to one application per year and the product must be incorporated mechanically or with irrigation. Poor incorporation can result in erratic weed control. It is recommended that growers make applications of Sonalan® HFP to small areas to test for crop safety, first. Adverse environmental conditions, such as heavy rainfall/ flooded fields, and uneven application/incorporation can increase potential for crop injury. Injury symptoms may include stubby roots, swollen stem bases, and stunted plants. Severe injury can lead to plant death. More information about Sonalan® HFP can be found at the Gowan USA (<https://www.gowanco.com/>)



Sonalan® HFP PRE or PPI?

A research trial was initiated at Cornell AgriTech (Honeoye loam) on June 18, 2024, to compare the safety of Sonalan® HFP applied pre-emergence (PRE) or pre-plant incorporated (PPI) in 'Białobrzeskie' hemp. In the PPI treatment, Sonalan® HFP was applied at 2.5 pt/A to a 1-acre section of field and mechanically incorporated to a depth of at least 2 inches before hemp was planted. In the PRE treatment, Sonalan® HFP was applied at 2.5 pt/A to a 1-acre section of field after hemp was planted. Both fields received 0.5 inches of irrigation water to stimulate germination and ensure Sonalan® HFP was activated. Hemp and weed counts were made weekly to bi-weekly in up to 20 randomly placed quadrats per treated area; no differences were observed between the PPI and PRE treatments with respect to hemp or weed density counts for all observation dates (data not shown). On August 18, 2024, hemp and weed biomass was sampled from the replicated quadrats (Figures 1 and 2); hemp and broadleaf weed biomass were not affected by application strategy. Although grass numbers per m⁻² were statistically similar, grass fresh weight (g per m⁻²) was greater where Sonalan® HFP was used PRE. June and July were particularly dry months in CNY (50–75% less rainfall than historic averages). Under dry conditions, PPI herbicide treatments may provide better control of susceptible species than PRE treatments.