Performance of Isofetamid against White Mold
in Field-Grown Hemp

Project No. P13007
Date: 04/2023

PROJECT TITLE:

Efficacy and Crop Safety of Isofetamid against White Mold in Field-Grown Hemp.

PROJECT JUSTIFICATION AND OBJECTIVES:

IR-4 received a request for the use of isofetamid on hemp for control of white mold in hemp grown under field conditions. The purpose of this research is to collect efficacy and crop safety data to support registration of isofetamid for use on hemp.

Adherence to Good Laboratory Practices (GLPs) is not required for trials conducted under this research plan.

IR-4 RESEARCH COORDINATOR:

Consult with the Research Coordinator listed below regarding desired changes in this research plan prior to occurrence.

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Signature of IR-4 Research Coordinator
Jaimin Patel

04/05/2023
Date

MATERIALS & METHODS:

Host plant: Use a commercial variety of industrial hemp (a variety of *Cannabis sativa* with a THC content not greater than 0.3%) that is susceptible to white mold in the field. Report variety (indicate whether it is a CBD-oil or a fiber/seed variety) and source. Follow local agricultural practices to ensure good crop production.

Test site: Field site that is historically subjected to white mold infections.

Pathogen(s): White mold (*Sclerotinia* spp. or *Athelia* spp).

Treatments:

Product	MFG	EPA Reg. #	AI	Application Method	Rate	GPA	Notes
Untreated	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Kenja 400SC[1]	ISK	7151 2-22	Isofetamid	Apply to base of the plant and soil	10.0 fl oz/A	50-100 gal/A	Make 3 applications at 7 day RTI starting at planting in the field
					13.5 fl oz/A		
					18 fl. oz/A		

[1]All applications should include an adjuvant at a rate recommended by the product's label.

Application Timing: Apply preventatively starting after planting a couple of weeks before the optimal conditions for disease development to occur (15°C is the optimal temperature for white mold to germinate and establish).

Test Substances Manipulation: Read product use directions prior to manipulation and application. Applicators and handlers must wear the personal protective equipment listed on the product label. Do not use old/expired products for trials conducted under this research plan. The IR-4 Research Coordinator will arrange for new test substance to be delivered.

Upon receipt of the test substance(s), document the corresponding lot/batch number. Store the test substance in a secure, clean, dry area at temperature ranges noted in the product label.

Use application equipment that will provide uniform application of the test substance and simulates the intended commercial application technique. To ensure accurate delivery, calibrate test application equipment prior to application of the test substance(s).

Experimental Design: Treatments should be replicated at least four (4) times. Treatments should be arranged in a randomized complete block design or other appropriate statistical design. The experimental units should be large enough to permit accurate application of the test substance in a manner that represents the major application technique that will be used commercially.

Supplemental Crop treatments: The integrity of the study should be protected by managing pests causing significant damage to the crop other than the test target pest. Only EPA-

registered maintenance pesticides should be used at labeled rates and applied to all experimental units. Document all supplemental crop treatments.

DATA COLLECTION:

Pathogen Identification: Identify if the test pathogen in the trial belongs to *Sclerotinia* spp. or *Athelia* spp.

Efficacy: Assess disease incidence by counting the number of plants infected out of the total number of plants per treatment and assess disease severity (degree of infection per plant) by using an appropriate rating scale. Assessments should be conducted 1-2 days after each treatment application as well as two (2) weeks after the very last treatment application.

Crop Injury: Assess phytotoxicity in the plot(s) preferably 7-14 days after each application of the test substance, using the damage scale indicated below. If an application interval is less than seven (7) days, then the assessment may be done at the next application date. The untreated plot should be assessed on each date that any treated plot is assessed. If the crop is to be harvested/sampled within 14 days of the last application, then make the assessment on the day of harvest. The rating is an assessment of the damage throughout the entire plot. If a rating of one (1) or higher is given to a plot, a follow up rating is needed 7-14 days after that, even if there is no additional test substance application in the interim, unless this rating is given to the crop at harvest.

Scale:

- 0 = no damage seen in the plot
- 1 = damage in ≤10% of the plot
- 2 = damage in 11-25% of the plot
- 3 = damage in 26-50% of the plot
- 4 = damage in >50% of the plot

STATISTICAL ANALYSIS: Conduct appropriate statistical analysis to determine if significant differences exist between treatments. Statistical analysis from commonly used agricultural data programs, such as but not limited to Agricultural Research Manager (ARM), SAS, Minitab, etc. is acceptable.

DATA REPORTING: At trial completion, please submit a final report and the raw data in two separate files to the IR-4 Research Coordinator and the appropriate Regional Field Coordinator (RFC) listed below.

For the sake of consistency and to avoid missing information, IR-4 encourages collaborators to adopt and fill out the Final Report Research Template provided by the Research Coordinator prior to trial conclusion.

The final report and the raw data should be submitted to IR-4 within 60 days of last data collection.

For non-confidential test substances, IR-4 encourages researchers to publish the results obtained from the study. Any publications should acknowledge support by IR-4.

TRIAL SITE INFORMATION

Researcher	Field ID NO.	RFC
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RESEARCH FIELD COORDINATORS

NER: Marylee Ross, IR-4 North East Region Field Coordinator's Office, University of Maryland, LESREC, 27664 Nanticoke Rd., Salisbury, MD 21801. Tel: (410) 742-8788 x 310, FAX# 410-742-1922; e-mail: mross@umd.edu