HEMP NEWSLETTER

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Oregon State University-Statewide Hemp Crop Production Research Summary-2021

1. National Essential Oil Hemp Variety Trials

OSU-Global Hemp Innovation Center collaborated with over a dozen universities across the country on hemp variety trials. This study has three-fold objectives: 1) to determine how different essential oil hemp varieties perform across the nation; 2) how the hemp crop can fit in rotation with other crops; and 3) how the hemp crop genetic and environmental conditions can affect management practices.

Research Locations in Oregon

- Southern Oregon Research and Extension Center in Central Point.
- Private Cooperating Farm in Ontario.

2. Hemp Germplasm Research

OSU is collaborating with the University of California-Davis, Washington State University, and the USDA Agricultural Research Service to obtain, characterize, and evaluate hemp germplasm. OSU's hemp pre-breeding program will involve the development of germplasm pools that can be distributed to farmers and breeders and will be made publicly available through the USDA Hemp Germplasm Repository.

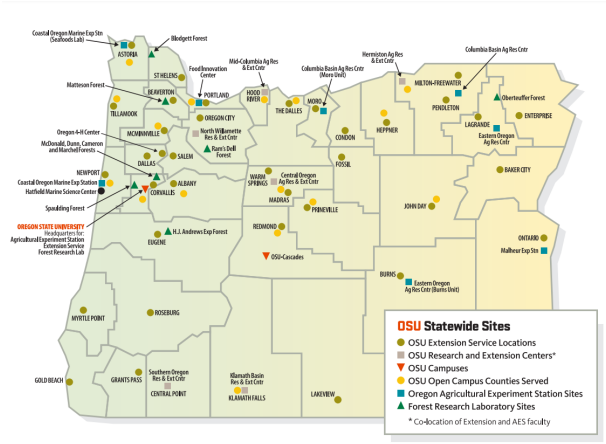

Fig.1 OSU Branch Experiment Stations

3. Western U.S. Water Use Trials

OSU-Global Hemp Innovation Center conducted cooperative irrigation trials in Oregon, California, and Colorado to estimate the water requirements for hemp plants to replace what is used by the crop through evapotranspiration. Flower yield, cannabinoid concentrations and cannabinoid yields were measured in this study.

Research Locations in Oregon

- Hermiston Agricultural Research and Extension Center in Hermiston.
- Private Cooperating Farm in Ontario.

- Klamath Basin Research and Extension Center in Klamath Falls.

The Oregon studies are a follow-on to USDA-NRCS funded hemp irrigation water demand research in Ontario begun during the 2019 season, with results planned for publication in 2022.

4. Hemp Grain Trials

OSU-Columbia Basin Agricultural Research Center soil scientist (Dr. Don Wysocki) conducted the hemp grain trials in Dixie, Walla Walla County in 2020 and 2021. The aims of the study were to determine whether hemp grain crop has the potential to grow under dryland conditions and to assess nitrogen application rates (0, 50, 100, 150 and 200 lbs./acre) on plant nutrient uptake and grain yield levels.

5. Statewide Hemp Plant Pathogens Survey

OSU-Plant Pathologists (Drs. Cynthia M. Ocamb, Kenneth Frost, Jeremiah Dung and Achala N. KC), Extension Specialists (Drs. Gordon Jones and Govinda Shrestha), and USDA Researchers (Drs. Hannah Rivedal and Inga Zasada) conducted the statewide hemp plant pathogens survey in eastern, central, southern and western regions of OR. The aim of the study was to identify the most common pathogens across the state and/or by region. The survey was conducted in commercial hemp fields at several time points over the past season.

6. Hemp Insect Surveys in Southern Oregon

OSU-Hemp Extension specialist (Dr. Govinda Shrestha-SOREC) and Ag. Entomologist (Rick Hilton-SOREC) conducted hemp insect surveys in southern OR. The aims of the study were: 1) to monitor the population dynamics of corn earworms and beet leafhopper that are currently potential threats to hemp CBD production in OR or across the nation, and 2) to identify common insect pests and beneficial insects on hemp plants. The surveys were conducted in commercial hemp fields and research plots at several time points over the past season.

7. Potential of a Hemp Cover Crop Incorporated in the Dryland Wheat Rotation

OSU-Cereal Plant Pathologist (Dr. Christina H. Hagerty-CBARC) conducted the greenhouse and field trials to determine soilborne disease pressure in winter wheat following summer fallow; hemp, mustard, and barley cover crops. The winter wheat yield was also measured in the study.

8. Pesticide Residual Trials on Hemp

OSU-Pesticide Registration Research Leader (Dr. Dani Lightle-NWREC) conducted IR-4 fungicide and herbicide residual field trials on hemp. Hemp flowers were sampled and sent to a laboratory to measure residual pesticide levels in the plant material.

Hemp Extension Program-2021

1. Southern Oregon Hemp Growers Forum

During the growing season, the Southern Oregon Research & Extension Center has been facilitating a series of meetings called the Southern Oregon Hemp Growers Forum with the intent to provide

timely and accurate information to hemp growers in Jackson, Josephine, and Douglas counties. Details and recordings of those programs can be found here: Southern Oregon Hemp Growers Forum.

2. Hemp Newsletter

During the 2021 field growing season, OSU-Hemp Extension Program published four newsletters. These are intended to: 1) share current science-based information on production and management aspects of hemp throughout the growing season, and 2) provide current updates on hemp research and extension activities with growers and community members. All OSU hemp extension publications, including newsletters, can be accessed here: Publications.

3. OSU Hemp Field Day

OSU organized the first Hemp Field Day in Klamath County. Speakers covered a variety of topics including hemp grain production, nutrient management, water management, and OSU hemp research update.