

Montra Hemp Evaluation

Project duration: May 2019 – September 2019

Objectives: To evaluate the effect of Montra products on hemp production.

Collaborators: Kevin Shale – Montra Crop Science

Project findings

The application of the Montra products on hemp did not appear to influence grain yield, emergence or nutrient content significantly. However, both Montra products appear to have significantly affected hemp cannabinoid profiles, specifically for CBG. Other cannabinoids were not significantly affected.

Background

Montra BR-X (a liquid product) and VX-3 (a dry product) were applied to hemp at seeding. MX-3 was applied to both treatments at herbicide application. Plant samples for each treatment were tested for nutrient content.

Materials & Methods

Experimental Design: RCBD
Entries: 3 (control, BR-X, VX-3)
Seeding: June 4, 2019
Harvest: Oct 2, 2019
Variety: CRS-1

Agronomic information

Previous year's crop: Oats
Soil Type: Erickson Loam Clay
Landscape: Rolling with trees to the east
Seedbed preparation: Heavy harrowed twice

Data collected

Emergence: June
Emergence date: June 9-11
Cannabinoid harvest: August 23

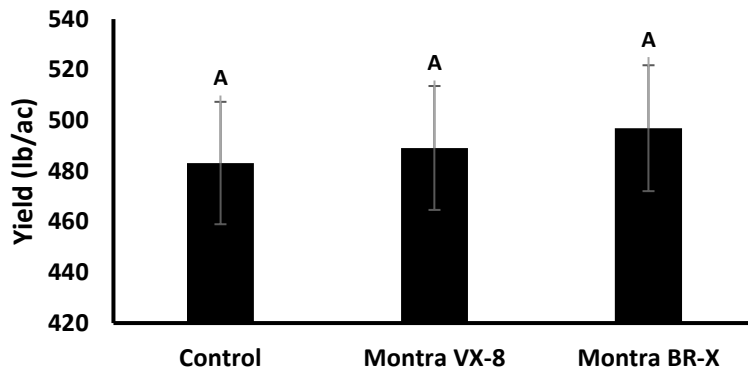


Figure 1: Grain yield for hemp across treatments (treatments marked with the same letter are not significantly different from others in this study)

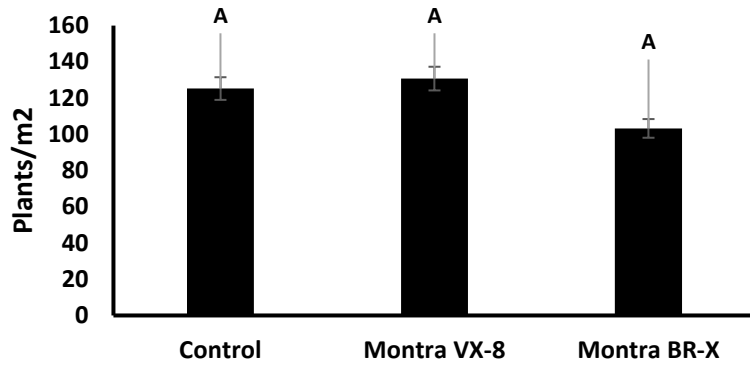


Figure 2: Plant emergence for hemp across treatments (treatments marked with the same letter are not significantly different from others in this study)

Table 1: Spring 2019 Soil Test

	Available	Needed
N	79 lb/ac	120 lb/ac
P	13 ppm	40 lb/ac
K	222 ppm	-

Table 2: Added N and P

Blend	Blend (actual lbs/ac)	Actual lbs N	Actual lbs P
46-0-0	89	41	0
11-52-0-0	76	8	40
Total	-	49	40

N side-banded; P banded with seed

Table 3: Pesticide Application

Crop stage	Date	Product	Rate
Pre-emerge	May 19	Heat	28.4 g/ac
		Round-up	0.64 L/ac
In-crop	June 19	Quizalofop	0.3 L/ac
	July 15	Brotex	0.4 L/ac
		Centurion	0.15 L/ac

Table 4: Cannabinoid profile between treatments (% w/w of dry material)

Treatment	CBD	CBDa	CBG	CBGa
Control	0.21	0.68	0.01	0.03
BR-X	0.13	0.50	0.02	0.06
VX-3	0.14	0.78	0.01	0.05