

UF/IFAS Industrial Hemp Pilot Project: **Field Trials**

Zack Brym, John Erickson, Josh Freeman, Rui Yang, and Will Wadlington



The UF/IFAS Industrial Hemp Pilot Project has established variety trials for a diversity of hemp genetics among Florida's environments and additional field trials to design an effective hemp cropping system for Florida's farmers.

Background

The UF/IFAS Industrial Hemp Pilot Project has established variety trials with as many as 25 hemp varieties representing various uses (fiber, grain, CBD) and regions of origin (North America, Europe, Asia). Variety trials were planted at three UF/IFAS research locations: TREC – Homestead, AFRU – Hague, NFREC – Quincy. Following initial screening of varieties, additional trials were planted to improve seed emergence, pre-plant seed treatments, herbicide control, and moisture management.

Research Activities

Variety Trial

Planting method: Direct seeded for grain and fiber varieties; ½" depth, 8" rows; 30-50 lbs/acre; CBD hemp was direct seeded or transplanted at 2' x 2' spacing.

TREC – Homestead: Well-drained rockdale soil; Planted May 1, May 22, June 21, July 18; Low to moderate emergence.

AFRU – Hague: Somewhat poorly-drained deep sandy soil; Planted May 8, May 29, July 16; Low to moderate emergence.

NFREC – Quincy: Somewhat well-drained sandy loam; Planted May 30 and June 21; Low emergence.

Early observations: Varieties showed flowering behavior consistent with latitude of origin. Northern latitude varieties flowered in as few as two weeks. Southern latitude varieties perform well, so far. Some CBD hemp varieties began flowering at TREC in July, perhaps driven by heat stress.

Seed emergence improvements

Drainage: Hemp seeds require sufficient and consistent moisture to emerge, but too much moisture following planting appears to also limit emergence. Emergence at TREC was better in earlier plantings (May) than later (June). A bedding trial has been established at AFRU to pull moisture away from emerging seeds.

Seed treatments: Damping off due to soil-borne diseases; Limited emergence at AFRU and NFREC. Seeds were treated with mefenoxam, thiamethoxam, and azoxystrobin products in later plantings.

Herbicide treatments: Weed competition limited growth of small seedlings at AFRU and NFREC. Pre-emergent herbicides were applied in trials with active ingredients including: S-metolachlor, clethodim, and pendimethalin.

