



# Cornell Hemp

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## Evaluation of clonal propagation of hemp cultivar 'TJ's CBD' in different media types

Allison DeSario, Teagan Zingg, Larry Smart – Horticulture Section, Cornell AgriTech, Geneva NY

### Importance of clonal propagation:

Clonal propagation is necessary for maintaining lines of genetically identical plant material. This is useful for large-scale experiments to study traits of a particular cultivar, such as evaluation in field trials. It is also one way to establish a field with only female hemp plants.



Cuttings in coco coir plugs

### Rooting in different media:

The chosen media must have certain characteristics such as- ample pore space, ability to hold water, ease of transplant, ability to physically support the new cutting, etc.

In this experiment we compared three types of media: **rockwool cubes (Grodan)**, **coco coir plugs (Riococo)**, and **potting soil (Lamberts LM 111)**



Fresh cutting dipped in Clonex gel before being stuck in media

### Experimental design:

Cuttings with 2-4 nodes were taken from a 'TJ's CBD' mother plant at various locations on the plant (i.e. ontologically different ages), dipped in rooting hormone (Clonex gel), stuck in designated media, and placed in a mist chamber.

Cuttings were checked daily to ensure they did not dry out, misting with a spray bottle when necessary.

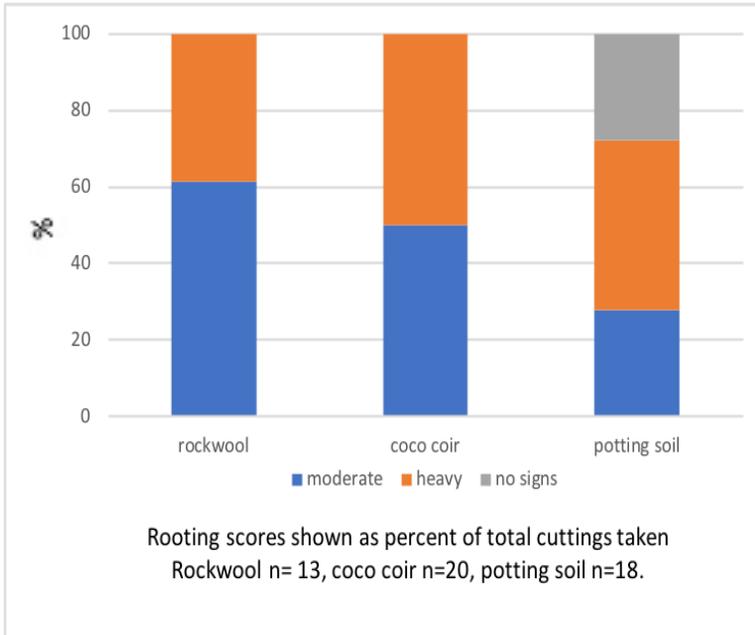


## Data collection:

24 days after sticking the cuttings, they were uprooted from their media and the root vigor was scored based on:

0-no signs of rooting, 1-root primordia/callus formation, 2-moderate rooting, and 3-heavy rooting.

The graph below breaks down the data from categories 0, 2, and 3 above



## Results: each media had a unique strength

Cuttings stuck in rockwool had the most formation of fine root hairs.

Cuttings stuck in coco coir had the most successfully rooted cuttings, based on visual assessment of root vigor scoring.

Cuttings stuck in potting soil had the most prolific root growth.

## Considerations:

Rockwool is inorganic so the decision about waste management arises.

Coco coir dries out quicker than potting soil, so the timing of removal from mist chamber to transplant is crucial.

Cuttings in potting soil tend to get root bound before transplanting can occur.



Above: Cuttings 24 days after sticking in coco coir plugs

Below: Same conditions, with coco coir removed