

# Creation of F1 Cannabigerol × Autoflowering Cannabis Line

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Figure 1. 'Sagan' branch cloning

## Objectives

- Creation of new autoflowering cannabigerol (CBG) cannabis line through hybridization of CBG line with autoflowering CBD line
- First hybrid generation (F1) seedlings will be collected for future crosses
- Practice of cannabis propagation, maintenance, and cultivation

## Introduction

- CBG is a nonpsychoactive cannabinoid with potential neuroprotective and antibacterial properties (Nachnani, *et al.*, 2021)
- Accumulation of CBG is believed to originate from a mutation that inhibits enzymatic conversion (de Meijer, *et al.*, 2005)
- Cloned 'Sagan' CBG line was propagated to produce hybrid F1 seeds for ease of autoflower cultivation and short time to maturity
- Treatment methods were implemented for cannabis powdery mildew infection

## Methods

- Sixteen branches were cut from four parent 'Sagan' CBG producing cannabis plants
- Cut ends were treated with Clonex Rooting Gel and propagated using an OxyClone OX20SYS hydroponic cloner with Botanicare CNS17 hydroponic nutrients
- Rooted clones were transferred to 4"×3.5" pots with potting soil
- Clone leaves with signs of powdery mildew infection were pruned and sprayed weekly with a solution of Dawn dish soap and 1.5% potassium bicarbonate
- Supplemental nutrients included half dose of Miracle-Gro® All Purpose Plant Food
- One treatment of Scotts® Super Bloom was added at half dose to promote flowering
- Female clones were transplanted to 6"×5.75" pots and moved into an isolated greenhouse with male autoflowering CBD line plants
- CBD line pollen was dispersed across flowering female clones



Figure 2. Rooted clones



Figure 3. Flowering female clones

## Results

- Sixteen clones were successfully propagated from four 'Sagan' cannabis plants
- Clones responded positively to powdery mildew treatment methods
- Clones experienced severe nutrient burn-induced leaf loss after the addition of Scotts® Super Bloom
- Thirteen clones fully recovered from nutrient burn-related damage
- One self-pollinating hermaphrodite clone was removed from the experiment
- Twelve clones were successful in their production of hybrid F1 seed for future experiments



Figure 4. F1 seed production

## Future Directions

- Hybrid F1 seeds will be grown and tested for CBG percentage
- F1 plants will be crossed with other cannabis lines to create new high CBG phenotypes to select

## Acknowledgements

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## References

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