

# OASIS<sup>®</sup> RhizoPlug<sup>™</sup> Sheet

OASIS<sup>®</sup> RhizoPlug<sup>™</sup> Sheet growing media demonstrates superior performance compared to its preceding generation, OASIS<sup>®</sup> Rootcubes<sup>®</sup> growing media, with hemp propagated from vegetative cuttings.

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## Introduction

OASIS<sup>®</sup> engineered growing media is renowned for the propagation of clean, uniform and consistent quality young plants. OASIS<sup>®</sup> Grower Solutions (OGS) has developed a next-generation of engineered growing media called OASIS<sup>®</sup> RhizoPlug<sup>™</sup> Sheet growing media, designed for precision propagation of vegetative cuttings. Using advanced plant-friendly chemistry, the OGS team was able to significantly reduce the media's density and strength while increasing its capillarity compared to their preceding generation of growing media, OASIS<sup>®</sup> Rootcubes<sup>®</sup> growing media. OASIS<sup>®</sup> RhizoPlug<sup>™</sup> Sheets are pre-dibbled with an improved universal star hole and available in 50, 104, and 162 count plug sheets.

## Objective

The objective of the current study was to understand the rooting performance of OASIS<sup>®</sup> RhizoPlug<sup>™</sup> Sheet growing media compared to its preceding generation, OASIS<sup>®</sup> Rootcubes<sup>®</sup> growing media.

## Materials & Methods

This experiment was conducted in September and October of 2023 at the Cannabis Research Coalition Controlled Environment Agriculture Research Facility in Anderson, SC. Shoot tip cuttings of hemp 'Fun Dip' were obtained from in-house stock. The cuttings were rooted in 50 count OASIS<sup>®</sup> RhizoPlug<sup>™</sup> Sheets and Rootcubes<sup>®</sup> growing media. The cuttings were rooted either in 104 or 50 count OASIS<sup>®</sup> RhizoPlug<sup>™</sup> Sheets and OASIS<sup>®</sup> Rootcubes<sup>®</sup> growing media.

## Experiment Details

### Media Preparation and Fertilizer

OASIS<sup>®</sup> RhizoPlug<sup>™</sup> Sheets arrive completely dry without any initial moisture. Therefore, as per the instructions, we thoroughly saturated the media. For this study, the sheets were watered using subirrigation followed by overhead watering to ensure there were no dry spots and to equilibrate the pH and EC. First, sheets were placed in a standard 10" x 20" tray with drain holes, followed by a solid bottom tray. Next, sheets were watered overhead with 7.5 L nutrient solution to fully saturate the substrate. The sheets and tray with holes were removed from the solid bottom tray and allowed to drain. The sheets were then watered overhead with 5 L nutrient solution. We used Jacks Professional<sup>®</sup> 15-5-15 + Ca-Mg LX at 150 ppm N for initial soaking as well as during propagation with every watering event.

### Sticking

Clonex was used as the rooting hormone. Each cutting was dipped approximately 0.5" for one second. Cuttings were stuck to a depth of ½ to ⅝ inch of the associated media.

### Lighting and Environmental Conditions

An 18-hour day length was provided with high-pressure sodium lights (Gavita Pro 6/750e DE 277-347 Volt). A minimum light intensity of 140 μmol/m<sup>2</sup>/s was maintained at the plant canopy level. The indoor growing temperature was maintained at 78° to 80°F. Domes were kept on the trays to ensure constant humidity (90-95% RH) for the first 12 days and then removed. At removal, the room relative humidity was kept at 70% and then lowered to 60% after two days.

**Observations**

Root and shoot growth were evaluated 4 weeks after sticking and photographs were taken.

**Results**

Across replicates, we noticed faster establishment and root formation of the cuttings in OASIS® RhizoPlug™ Sheet growing media compared to OASIS® Rootcubes® growing media. A representative photo is presented in Fig. 1 below.

The cuttings were easy to stick, with no breakage or damage during insertion. We also noted water drained easily and plugs did not stay waterlogged, even after frequent watering during rooting. Note: Hemp, which is rich in chemical compounds, can benefit from flushing the root zone during the cloning process.

Fig 1. Hemp 'Fun Dip' day 28 after insertion of cuttings in OASIS® Rootcubes® growing media on the left and OASIS® RhizoPlug™ Sheet growing media on the right.

**Conclusion**

The OASIS® RhizoPlug™ Sheet growing media significantly improved the rooting performance of shoot tip cuttings of hemp 'Fun Dip' propagated for this experiment. Cuttings were easy to stick, without breakage or damage. Cuttings stuck in OASIS® RhizoPlug™ Sheets displayed faster root formation and establishment compared to cuttings stuck in OASIS® Rootcubes® growing media, and the rooting was more uniform and consistent.