



DeLeaves®

# CANOPY SAMPLING TOOL

## Collect Remotely From Any Tree

The DeLeaves tool provides a new way to sample material from the tree canopy (branches, twigs, cones, seeds, insects, etc.) using an unmanned aerial vehicle (UAV). Using the latest technologies, Outreach is working with top ecological organizations, forestry companies, botanical gardens, and university research groups across the globe to enable the sampling of previously unreachable plants and trees. This tool is totally independent from the UAV platform and can be attached under a great variety of commercially available UAV, allowing customers to easily integrate this tool into their current operations. With the DeLeaves tool, the security issues related to tree climbing, the use of firearms, or the use of a line launcher are no longer a problem.



**User interface specifically designed for sampling**

- ✓ Battery state of charge
- ✓ Voltage level
- ✓ Signal strength indicator
- ✓ Realtime HD video feed
- ✓ One button automated cutting sequence
- ✓ Sampling sequence progression



### PRECISION

Collect the sample of your choice with the DeLeaves canopy sampling tool that offer an unparalleled precision.



### EASY-TO-USE

Our fully automated cutting sequence can be activated by pressing a single button.



### COMPATIBLE

Our tool is fully compatible with the DJI M200, M300, M600 series. No modification needed to the UAV.



### VERSATILE

The canopy sampling tool length and orientation are fully adjustable to let you sample any plant species.

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## Lightweight Carbon Rod

Standard kit includes 5 carbon rods that can be joined together to get up to 5 m (16 ft) length.

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## Emergency Release Mechanism

Allows separating the tool from the drone in case of an emergency.

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## Electronic Controller

The onboard controller commands the automated cutting sequence, advanced telemetry functions, and alerts for the operator. Integrated software safety features help to smoothly manage the cutting of bigger samples.

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## Full HD Camera

The sampling tool comes with a separate HD camera designed to help with the branch selection, alignment and cutting procedure.

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## Branch Holding Mechanism

Allow to firmly maintain samples up to 1 kg in place during the flight back to the base station.

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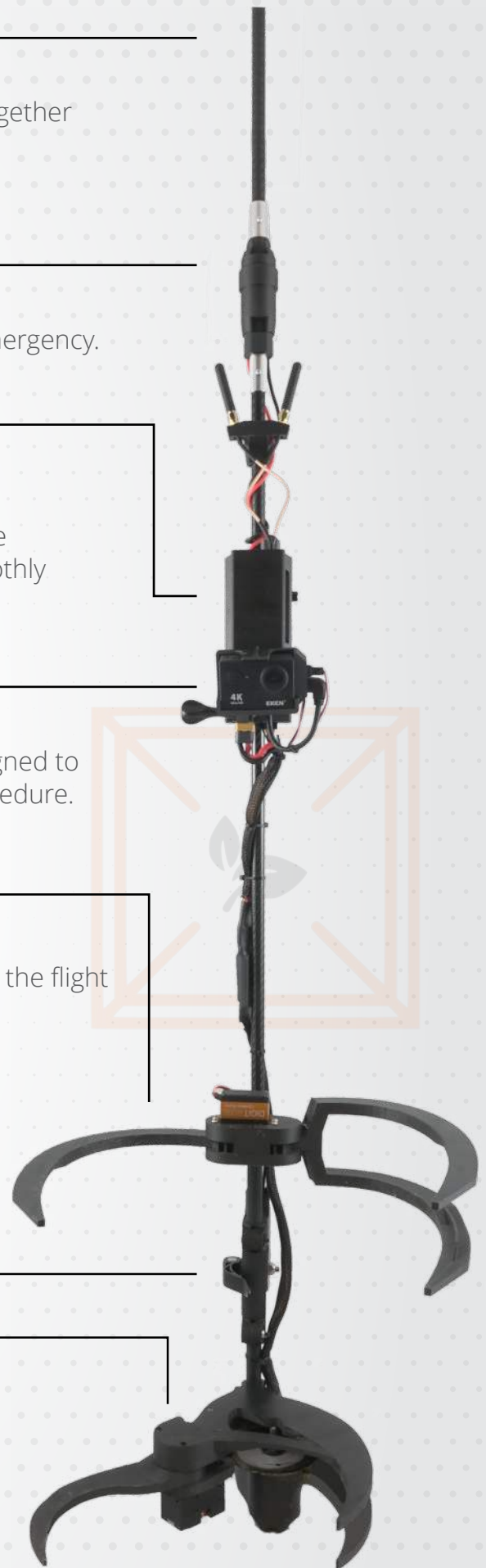
## Quick Orientation Adjustment

The cutting mechanism can match the orientation of any branch out there with a full 90° range.

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## Branch Cutting Mechanism

Cuts stems that are up to 20 mm (1 in) in diameter. The feeding arm is controlled by a smart servo to ensure a smooth cut.



# Field-Ready Complete Package: Compact, Robust, and Convenient.

## What's included in the kit:

- Pelican case Air 1745
- 1x DeLeaves Canopy sampling tool
- 1 x Fast-charging Battery charger, power cable, balancing ports, usb charger for remote control
- 1 x Herelink remote control
- 1 x Tripod
- 1 x Drone attachment of your choice
- 3x LiPo battery 1800 mAh
- 3x Emergency release mechanism
- 2x Spare cutting saw
- Toolkit for adjustments, cutting saw cleanup and quick-swap



## DELEAVES® SPECIFICATIONS

### AERIAL SAMPLING TOOL

<b>Max. cutting diameter</b>	20 mm (7/8 in)
<b>Max. sample weight</b>	1kg
<b>Battery capacity</b>	5 - 20 samples
<b>Battery voltage</b>	11.1 V (3S)
<b>Adjustable tool length</b>	3 - 5 m
<b>Adjustable tool orientation</b>	0° - 90°
<b>Tool weight</b>	1.4 - 1.6 kg
<b>UAV compatibility</b>	DJI M200, M300, M600

### GROUND STATION

<b>Operating range</b>	up to 20 km (FCC)
<b>Operating system</b>	Android
<b>Video link resolution</b>	1080P/30 FPS
<b>Battery capacity</b>	Built-in 4950 mAh

### TEMPERATURE

<b>Operating temperature</b>	0°C - 40°C
<b>Charging temperature</b>	10°C - 40°C

### REACH

**Distance Takeoff-Target:** avg. 300 m (1000 ft.), up to 20 km\* (12.5 mi.)

**Max. Stem Diameter:** 20 mm (1 in)

**Tree Species Restriction:** None

*\*With optimal visual line of sight (VLOS).*

### EFFICIENCY

**Avg. Sampling Time:** < 6 min

**Max. Flight Time:** 37 min\*

**Deployment Time:** 5 min

- Easy to carry due to compact packaging (Pelican™ Air case)
- Specific trees can be geolocated ahead of time to automate the flight from takeoff location to sampling target

*\*Using the DJI M300.*

### SAFETY

**Using the DeLeaves technology means avoiding:**

- Risks associated with tree climbing
- Injuries caused by carrying heavy equipment
- The use of guns and/or projectiles
- Overall hazardous situations\*

*\*Weighing below 25 kg, piloting the DeLeaves Canopy Sampling Tool only requires basic-level license in both the U.S. and Canada (ruled by the FAA and Transportation Canada, respectively).*

### ACCURACY

The full-HD, live feed (less than 200 ms of delay) from the camera located on the DeLeaves allows you to cherry-pick your target within the canopy, no matter the height of the tree.