

21st October 2019

Hemp Trial Farm Harvest Update

Highlights

- **Biomass Harvesting Underway and on Schedule**
- **Trimmed Flower Hand Cutting Complete**
- **Harvest timeline on track**
- **No weather concerns**

CropLogic Limited (ASX: CLI) (**CropLogic** or **Company**), award-winning global agronomy, farm management and agtech company, is pleased to provide an update of harvest progress at the Hemp Trial Farm, operated by CropLogic's wholly owned subsidiary LogicalCropping LLC, in Central Oregon.

The harvest is progressing well and according to schedule. 1st shipments of biomass scheduled for late October are on track for delivery in accordance with the supply agreement as announced on [6 August 2019](#).

One of the stated purposes of the Hemp Trial Farm is to trial different cropping methodologies that can be applied at scale. This includes the harvest process and these harvest processes differ slightly between the different harvest projects (discussed below). As some of these concepts may be new to some a video montage demonstrating many of the harvesting process and methodologies described in this announce has been placed on the Company's website. The video is entitled 'Harvest' and can found on the following page: <http://croplogic.com/logicalcropping/>

Trimmed Flower Joint Venture:

As announced on [25th July 2019](#) the company has entered into a joint venture to grow premium CBD hemp trimmed flower with an experienced Oregonian agriculturalists, the Shephard Brothers.

One of the stated purposes of the Hemp Trial Farm is to trial different cropping methodologies that can be applied at scale. This includes the harvest process of this trimmed flower. Generally, a 6 step process is being employed that includes:



Figure 1: An image of hemp plants drying in shedding at the Trial Farm

1. Harvest - A process of hand cutting the plants;
2. Hanging - A process of hand hanging the plants on lines in shedding;
3. Drying - A process of drying the plant - thought to take 7 to 10 days;
4. Bucking - A process of mechanically removing the flower from the plant stem;
5. Trimming - A process of mechanically trimming the 'hairs' or small leaves around the flower.
6. Packaging - A process of packaging for sale.

Progress to date:

Harvest: Approximately 14 acres of the approximate 16.6 acres of this project have been hand cut with the remaining approximately 3 acres being swathed and then field dried;



Figure 2: An image showing the utilization of industrial fans to complement the drying of plants from the Trimmed Flower Joint Venture.



Hanging: All 14 acres are hanging in shedding located at the trial farm.

Drying: At the time of this announcement the hand harvested 14 acres are drying adequately. As per common industry practice fans and dehumidifiers are being employed.

The swathed 3 acres will be brought into shedding once it has field dried to the required level.

Other than this the trimmed flower process will be left now as human resources and focus is being moved to completion of the Hemp Biomass Harvest with work likely to resume of the Trimmed Flower Joint Venture once this process is complete.

Figure 3: A further image demonstrating drying methodologies at the hemp Trial Farm

Hemp Biomass harvest:

One of the stated purposes of the Hemp Trial Farm is to trial different cropping methodologies that can be applied at scale. This includes the harvest process for Hemp biomass. Generally, a 4 step process is being employed that includes:

1. Swathing – a process of cutting the plants with a swather (sometimes called a windrower in Australia and New Zealand);

2. Field drying – a process of drying the biomass in its field to dry naturally - thought to take between 5 to 7 days;

3. Combine - process of picking up and chopping biomass with a combine harvester;

4. Brushing - process of 'milling' or further chopping the biomass to desired consistency.

Progress to date:

Swathing: At the date of this announcement all fields have been swathed.

Field drying: To date field drying is proving effective. The irrigation systems have been turned off and therefore water is no longer being delivered to the fields. This then warm, clear days with low humidity are assisting this process. Now that the plants have been swathed any frost, when and if it occurs, seems to also assist this process. Weather permitting, the 5 to 7 days we allotted here seems to have been an accurate estimate.

Combining: Two combine harvesters are onsite and have begun the process of combining the biomass material. This process to date is proving effective and the quality of material coming out of the combine harvesters at this stage appears of good consistency.

Brushing: Brushing is likely to begin within the coming weeks and will depend on the consistency of the material produced by the combine harvesters.



Figure 4: An image of the consistency of biomass out of the combine harvester from field Hercules. LogicalCropping has been pleased with the consistency of material from the combine harvester and feels some may not need brushing.



Figure 5: An image of field Draco with the crop swathed and field drying. The process of swathing, field drying and then combining has been found to be an effective method of cropping at the Hemp Trial Farm. Almost all the Hemp Biomass will be harvested using this method.

In Summary: There have been some 'dialling in' of machinery and process as is expected of a trial farm of this nature, however overall the process of Hemp Biomass Harvesting is progressing well and harvesting methodologies are proving effective.

Premium Cola project:

During the harvest during down times common to such a cropping operation as this, such as the time given to setting up and maintenance of harvesting equipment, human resources have been diverted to clipping and storing what is thought to be premium apical colas. This is a process of hand clipping the apical (main) cola and then storing them on screens of wire netting for drying. Located in some shedding on the trial farm is a drying room built by a former tenant. LogicalCropping has been able to re-service the drier fans and other infrastructure of this drying room and is now using this as a drying room for this premium cola project.

Drying room methodologies are of interest to LogicalCropping as they provide important insights and potential proprietary knowledge that will be useful in any eventual farming at scale. Although exact figures are not known management would estimate that the total biomass devoted to this project is less than 1% of total trial farm production and value. When 'dialling in' this drying room and then in the process of 'turning' these colas - a common industry practice - some mould has been observed in early stages. The presence of mould in any crop drying process is not uncommon and not a cause for concern if caught early. This mould has been caught early and as is common practice, affected cola's have been separated from unaffected material. The impact of this is not thought to be substantial and although exact figures are not known management would estimate spoilage due to mould represents less than 5% of this project, thus less than 0.05% of the total crop.

The exact use of these premium colas will be further investigated after harvest, however a market for premium colas with prices greater than Hemp Biomass have been observed by management. These colas may also be able to be used as a trimmed flower product and also potentially in blending for biomass to obtain desired CBD rates.



Figure 6: A drone image of the farm just before harvesting showing the joint venture 16.6 acres, field Orion, field Aries and field Draco and also some of the shedding available at the Trial Farm. This shedding is currently being used for drying of the trimmed flower and biomass.

CBD rates:

The presence of CBD or CBD % are not static in hemp plants while they are living and escalate as the hemp plant flowers towards the end of the season. As such it is CropLogic's observation that it is industry practice not to quote CBD rates until the plants have been harvested and are ready for sale. This will occur during the processing and sale stage of the hemp trial farm.

As stated previously CropLogic has set a target CBD rate of 10% for this trial farm and has tailored supply agreements accordingly. CropLogic remains confident that these CBD rates can be achieved and therefore remains confident about satisfaction of supply agreements including biomass shipments due later this month.

Frost:

Some frosts have been noticed at the trial farm and in the region however managements observation is that they have not had a material effect on the crop. These frosts have tended to be quite localized, with the trial farm often not being affected when other parts of the region have been, or some fields on the trial farm being affected while others have not. This tendency is similar to that of the previous hail events in Central Oregon which were also localised and which did not affect the trial farm and may suggest a regional trend of very localised weather events.

Frosts are a common occurrence in many cropping operations and are not necessarily note-worthy or cause for alarm in and of themselves. The impacts of a frost will differ between plant species and even varieties within a certain species. The impact of a frost is often not apparent until several days after a frost event. A frost event is not a certain indicator of proportionate or total crop failure.

The frosts that have occurred at the trial farm have been informative to management and broadened LogicalCropping and CropLogic's agronomic and farm management understanding of the hemp plant and cropping in central Oregon generally. Agtech tools such as CropLogic realTime and CropLogic Aerial Imagery – particularly drones and the recently resourced thermal imaging capabilities have also informed this process.

Although not an absolute rule it is management's observation that it is the length of the frost that may be a contributing factor to the effect of a frost. Short frosts that rest on the leaves for say 2 hours for example don't seem to have had a negative effect on the plants. It is also management's observation that the hemp plant, or at least the varieties selected for use at the trial farm, are relatively resilient to frost. It is thought within cropping industry circles that frosts, so long as they are followed by warm days, can assist with the drying process and observations at the trial farm suggest this to be true. Frost is not thought to affect crops that have been swathed.

No material effect of frost has been observed to date at the trial farm.

Weather:

Central Oregon was deliberately selected by LogicalCropping as it is drier and has lower rainfall than other hemp growing regions within Oregon such as the Willamette Valley. Typical Central Oregon weather this time of year is scattered rain events, cool nights and followed by warmer days. This weather is thought ideal for field drying and harvesting.

Nothing in the weather forecast for the next 14 days has CropLogic concerned.

“Harvesting is on track to be completed as scheduled” said CEO James Cooper-Jones, “CropLogic and the professional crew at LogicalCropping have all demonstrated the application of CropLogic’s agronomy, farm management and agtech expertise.

“As the cropping cycle comes to a close, the Hemp Trial Farm has provided a strong understanding of Hemp agronomy and farm management which has been added to CropLogic’s playbook for any eventual regional and international expansion.”

The eight stages of hemp farming

Logical Cropping’s farm plan consists of eight stages, based on the needs of the farm and plants.

These various stages of the farm plan are (with indicative timeline):

✓ Pre-planting	Completed
✓ Planting	Completed
✓ Growth, Maintenance & Management	Underway
✓ Flowering	Commenced
✓ Compliance Testing	Completed
• Harvest	Underway
• Processing/Sale	Oct – Nov
• Post-harvest	Nov – Dec

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About CropLogic

CropLogic is an award-winning global agricultural technology company listed on the Australian Securities Exchange (ASX). After launching its product into Washington State, USA in 2017, CropLogic is currently servicing a significant portion of horticultural growers in this region, with a market share as high as 30% in some crops. Following significant growth (2017-2018) in Washington State and Northern Oregon, in 2018, CropLogic expanded into the Idaho market. CropLogic offers growers of irrigated crops with digital agricultural technology expertise based upon scientific research and delivered with cutting edge technology – science, agronomy and technology interwoven into an expert system for decision support. For more information, please visit: <http://www.croplogic.com/>

Comments on nature of Trial Farm: The LogicalCropping Hemp Trial Farm is a trial farm and one of the stated aims is to trial farming and cropping methodologies that will assist with the cropping of hemp at scale. As such methodologies employed may differ or be adapted from time to time and from the ones outlined in this announcement.