



# ***BETTER FARMING THROUGH DATA***

**Jason Scott Arnold**

# ***Why collect data?***

**Data can offer deep insight.**

**Data capture and analysis can give understanding into cultivation and processing operations to help with:**

**Process Improvement  
Identifying Opportunity/Risk  
Increasing Efficiency  
Reducing Waste  
Forecasting**

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# Why collect data?

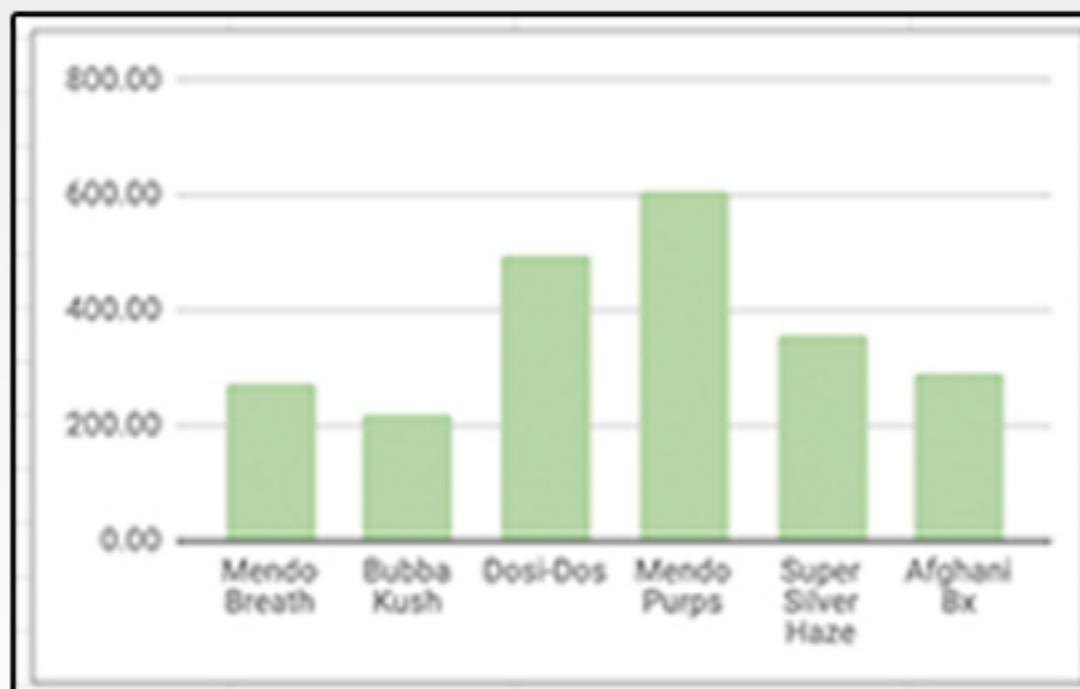
## Raw data transforms into KPI/Metrics

Data can help confirm instincts. Data can quantify impact.

Raw Data:

Date Planted	Date Harvested	Harvest Batch ID	Location	Cultivar	Plants	Total Weight (wet g)
7/7/2019	9/25/2019	092519-SS1-MB	South slope terrace 1	Mendo Breath	250	833,333
7/7/2019	9/25/2019	092519-SS1-MB	South slope terrace 1	Bubba Kush	250	666,667
7/7/2019	10/5/2019	100519-SS2-DD	South slope terrace 2	Dosi-Dos	500	1,500,000
7/7/2019	10/5/2019	100519-SS2-MP	South slope terrace 2	Mendo Purps	500	1,833,333
7/1/2019	9/24/2019	092419-SS3-SS	South slope terrace 3	Super Silver Haze	250	1,083,333
7/1/2019	10/19/2019	101919-SS3-AB	South slope terrace 3	Afghani Bx	250	883,333

Visual:



KPI:

Avg yield (G/ft<sup>2</sup>): 51.00

Trim-to-Flower Ratio %39.75

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# ***How to collect?***

## **Create a System**

**that outlines all the details of the data capture process.**

## **Not on Paper**

**(if possible)**

**Ideally using a simple**

## **Spreadsheet**

**or**

## **Dedicated Software Platform**

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# ***Creating a System:***

**Define points of collection (When)**

**Define types of data (What)**

**Define who is responsible (Who)**

**Collect Data**

**Analyze Data**

**Improve Process**

**Repeat**

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# ***What data?***

*The data most relevant to your business is dependent on your business model and goals.*

## **Common useful data points:**

**Cultivar, Planting Date, Location**

**IPM info (eg: pests/pathogens, applications, loss, etc.)**

**Nutrient data (Feed temp, pH, EC, composition, frequency, volume, etc.)**

**Environmental Data (Temp., rH, VPD, CO2, PAR, airflow etc.)**

**Labor Data**

**Consumables (nutrient, compost, water, pesticide, etc.)**

**Yield**

**Cannabinoid/Terpenoid Content**

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# ***When?***

**The systematic collection of data should be continuous as the plant life cycle progresses.**

**Key data capture points:**  
**Cultivation**  
**Harvest**  
**Post-Harvest**

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# ***Areas to leverage data:***

## **Research & Development**

**Process Improvement**  
**Cultivation Methodology Comparisons**  
**Site and Cultivar Selection**  
**Phenotyping**  
**Breeding**  
**Other**

## **Planning**

**Cultivar Selection**  
**Labor Management**  
**Supply Chain Management**

## **Business Development**

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# ***Software Solutions?***

**Software can help with aspects of data collection and analysis, but it's important to understand your business needs before selecting a platform.**

## ***How to select a software solution:***

**Evaluate Needs**

**Identify Key Feature, such as:**

**Labor Tracking**

**Inventory**

**Reporting/Forecasting**

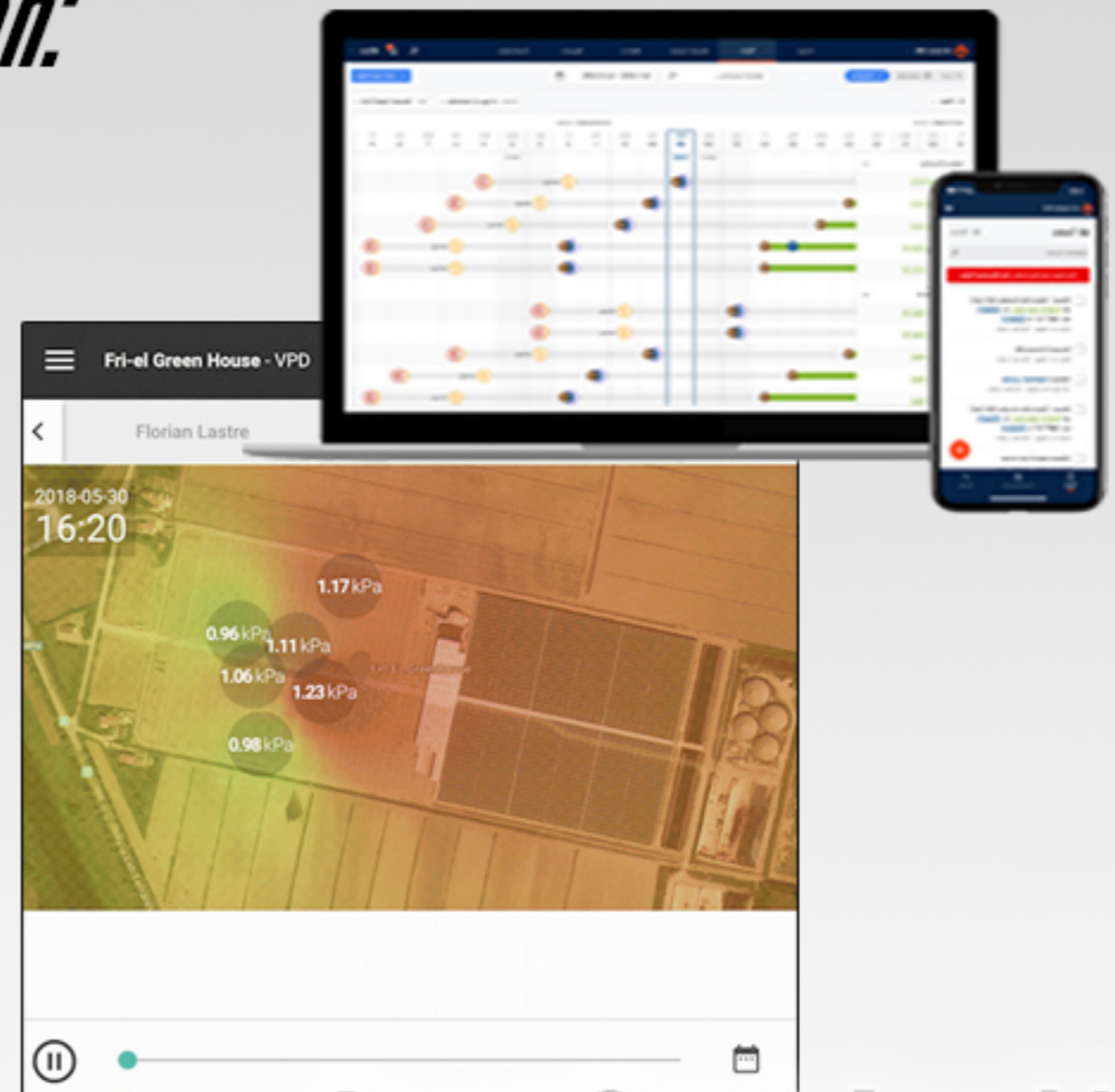
**Hardware Integration/Sensors**

**Application Integrations**

**Data Policy**

**Evaluate Platforms (Cost/Benefit)**

**Calculate ROI**



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# ***THANK YOU***

**I hope this inspires you to make the time to develop a basic data capture system in your operations.**

**The benefits are immense!**



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