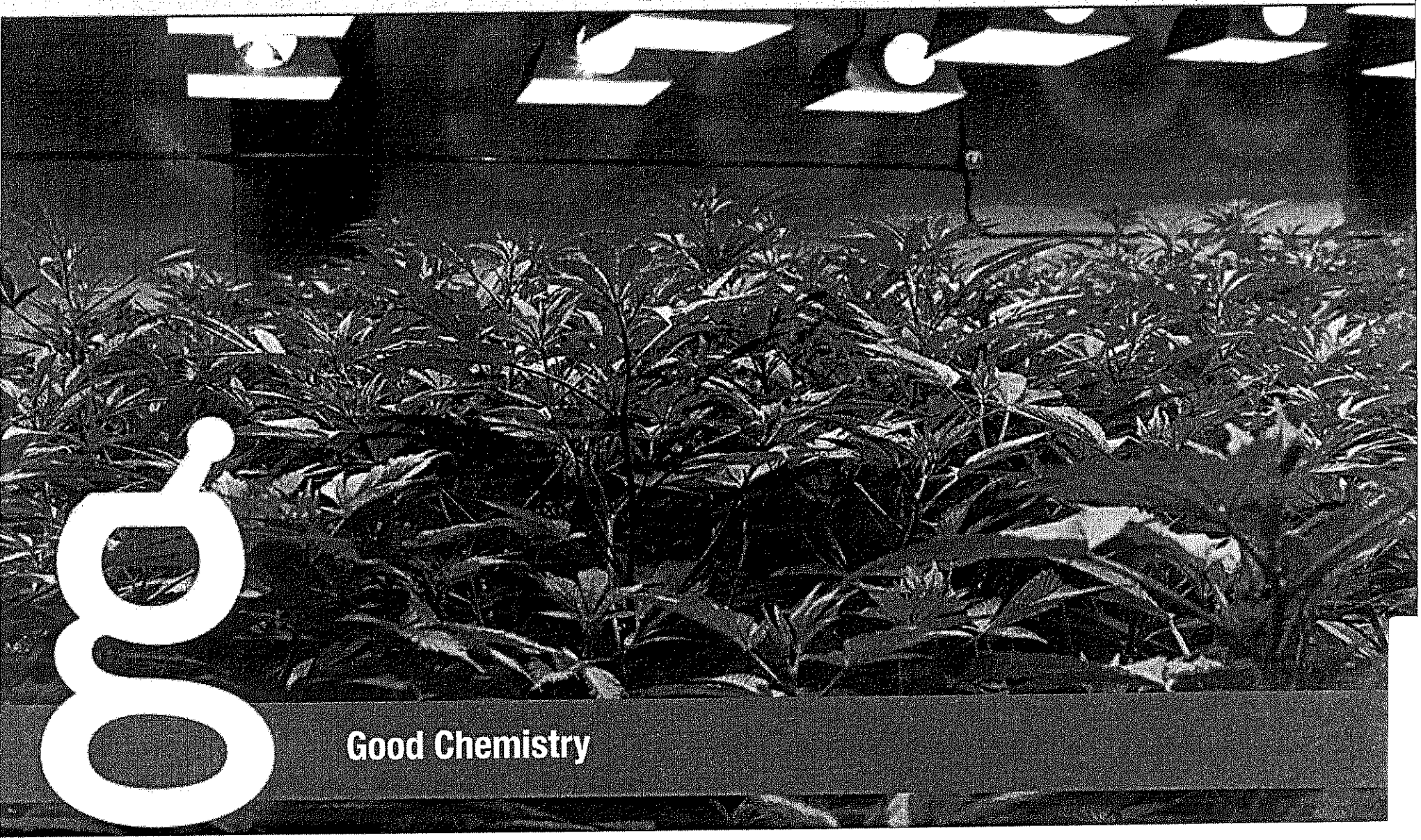
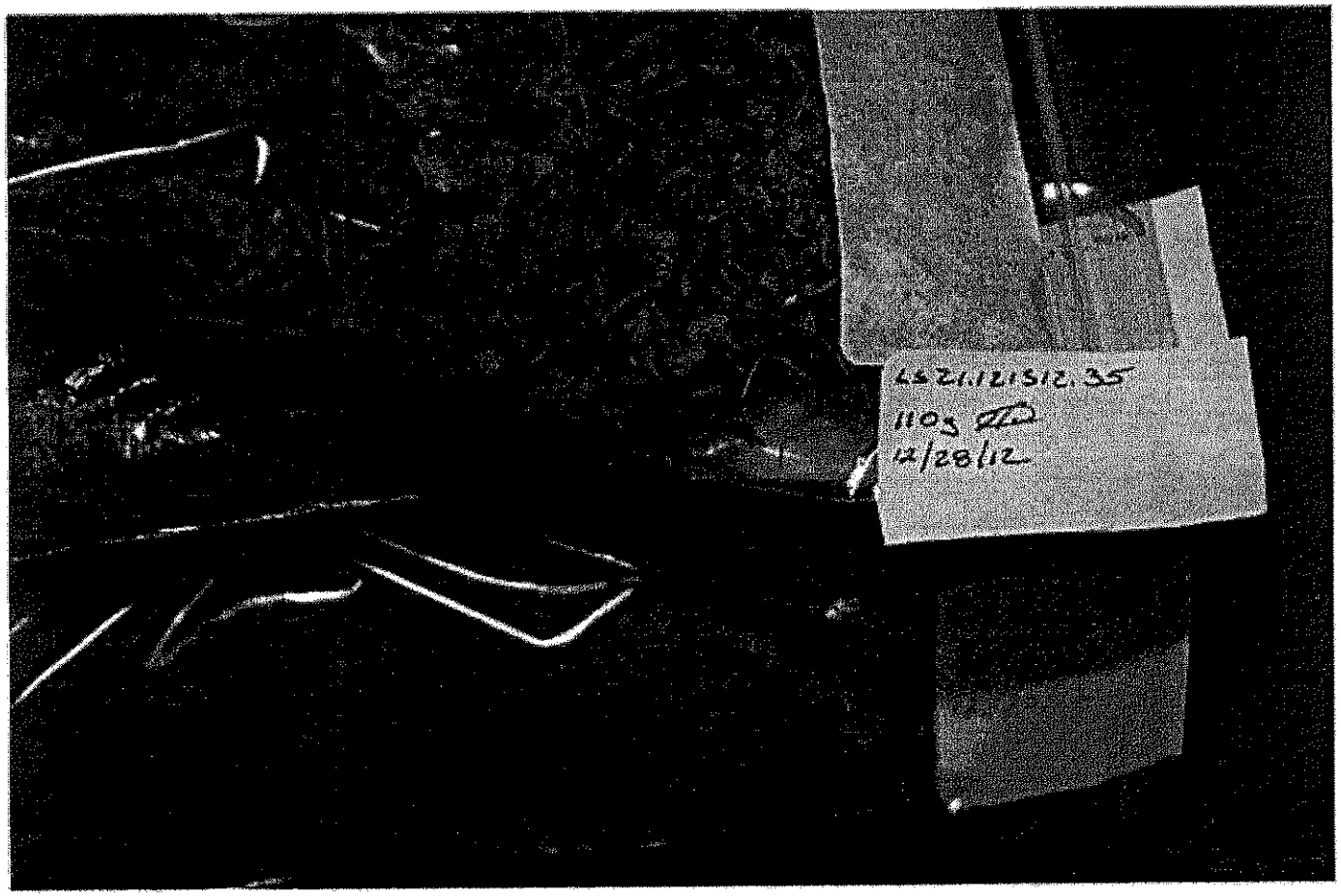
Security-Safety-Tracking

A Virtual Tour of a Cultivation Facility



Attachment D

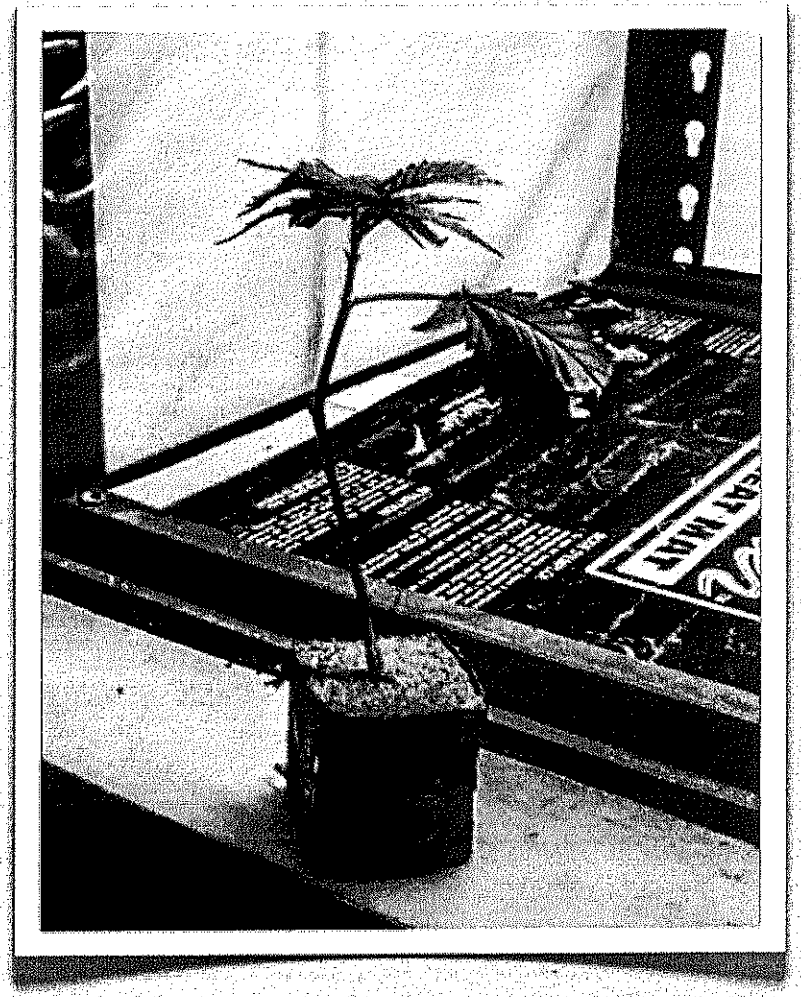
Welcome to Clippings



Stage 1 - Clippings

How Plant Life Begins

- Clippings are branches taken from existing plants
- Not classified as plants
- There is no developed root ball
- Vulnerable to loss
- No ID tags associated with the individual clippings

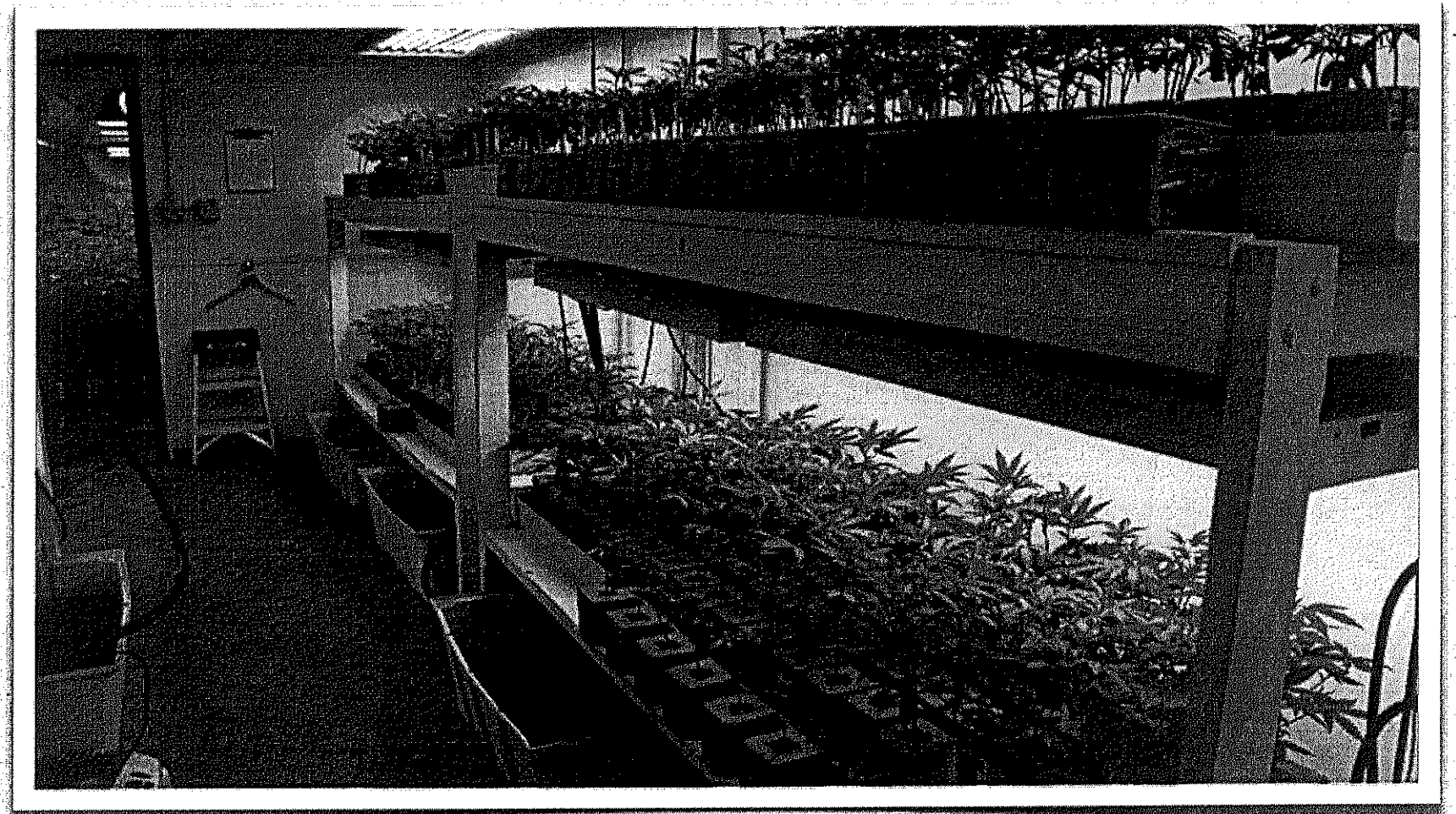


Managing Plants

ID	Location	Strain	Stage	Next Stage	Group	Grow Med...	Gender
I19							
I19.09	Nursery>>> Shelf 12	Ingrid	4er	Veg - 08/25		Hydro	Female
I19.10	Nursery>>> Shelf 12	Ingrid	4er	Veg - 08/25		Hydro	Female
I19.11	Nursery>>> Shelf 12	Ingrid	4er	Veg - 08/25		Hydro	Female
I19.12	Nursery>>> Shelf 12	Ingrid	4er	Veg - 08/25		Hydro	Female
I19.13	Nursery>>> Shelf 12	Ingrid	4er	Veg - 08/25		Hydro	Female
I19.14	Nursery>>> Shelf 12	Ingrid	4er	Veg - 08/25		Hydro	Female
I19.15	Nursery>>> Shelf 12	Ingrid	4er	Veg - 08/25		Hydro	Female
I19.16	Nursery>>> Shelf 12	Ingrid	4er	Veg - 08/25		Hydro	Female
I19.18	Nursery>>> Shelf 12	Ingrid	4er	Veg - 08/25		Hydro	Female
I19.19	Nursery>>> Shelf 12	Ingrid	4er	Veg - 08/25		Hydro	Female

As the clippings mature and form root balls they are tagged with individual labels and monitored utilizing the inventory tracking software.

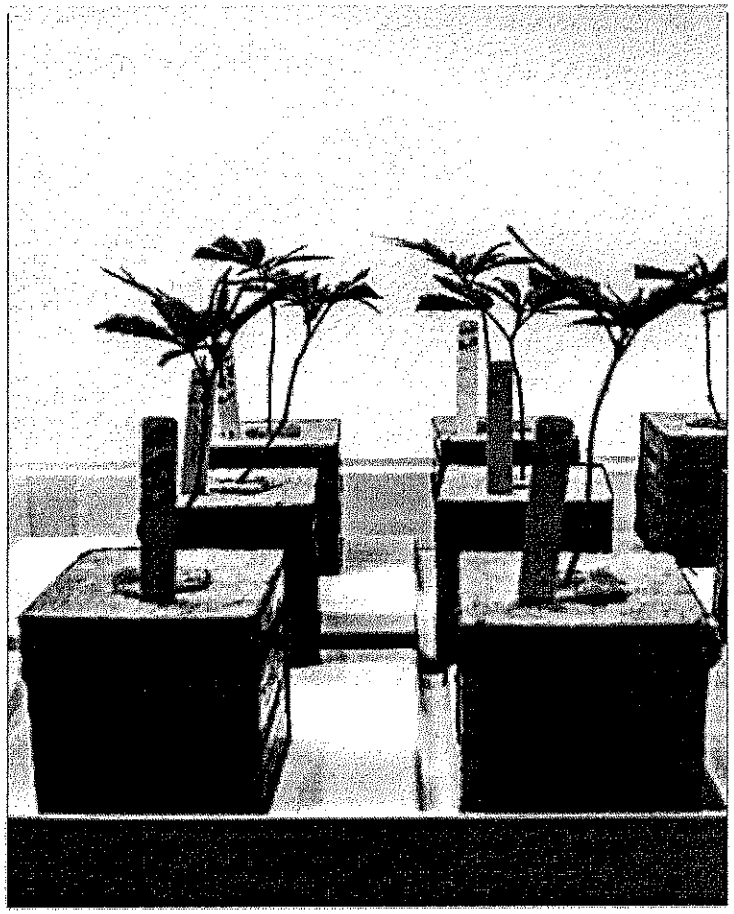
Welcome to the Nursery



Stage 2 - Nursery

Life Begins

- Plants have fully developed rootball
- Plants are tagged and labeled
- Plants are now entered into system to be tracked



Managing Plants

ID	Location	Strain	Stage	Next Stage	Group	Grow Med...	Gender
118							
118.15	Veg room	Ingrid	Veg	Flower - 08...		Hydro	Female
118.16	Veg room	Ingrid	Veg	Flower - 08...		Hydro	Female
118.17	Veg room	Ingrid	Veg	Flower - 08...		Hydro	Female
118.18	Veg room	Ingrid	Veg	Flower - 08...		Hydro	Female
118.19	Veg room	Ingrid	Veg	Flower - 08...		Hydro	Female
118.20	Veg room	Ingrid	Veg	Flower - 08...		Hydro	Female
118.21	Veg room	Ingrid	Veg	Flower - 08...		Hydro	Female
118.22	Veg room	Ingrid	Veg	Flower - 08...		Hydro	Female
118.23	Veg room	Ingrid	Veg	Flower - 08...		Hydro	Female
118.24	Veg room	Ingrid	Veg	Flower - 08...		Hydro	Female
118.25	Veg room	Ingrid	Veg	Flower - 08...		Hydro	Female

As the plants continue growth, they are then transitioned to the next stage of life, Vegetation. Tracking of the plants in the inventory software system occurs now, moving the plants from the Nursery Stage to the Veg Stage.

Welcome to Vegetation Room

Stage 3 - Vegetation

The Teenage Years

- Plants are transitioned from nursery into vegetation stage
- In vegetation stage, plants are on a vegetative light-cycle: 18hrs on, 6hrs off
- Plants have no medicinal value or psychoactive properties

Stage 3 - Vegetation

The Teenage Years

- Plants remain tagged for identification purposes
- Tagging allows for careful monitoring of the plants development and of nutrient protocols

Managing Plants

	ID	Location	Strain	Stage	Next Stage	Group	Grow Med...	Gender
	I17							
	I17.75	Small flower room(48) >> ...	Ingrid	Flower	Ready to H...		Hydro	Female
	I17.79	Small flower room(48) >> ...	Ingrid	Flower	Ready to H...		Hydro	Female
	I17.80	Small flower room(48) >> ...	Ingrid	Flower	Ready to H...		Hydro	Female
	I17.81	Small flower room(48) >> ...	Ingrid	Flower	Ready to H...		Hydro	Female
	I17.82	Small flower room(48) >> ...	Ingrid	Flower	Ready to H...		Hydro	Female
	I17.83	Small flower room(48) >> ...	Ingrid	Flower	Ready to H...		Hydro	Female
	I17.85	Small flower room(48) >> ...	Ingrid	Flower	Ready to H...		Hydro	Female
	I17.87	Small flower room(48) >> ...	Ingrid	Flower	Ready to H...		Hydro	Female
	I17.89	Small flower room(48) >> ...	Ingrid	Flower	Ready to H...		Hydro	Female
	I17.102	Small flower room(48) >> ...	Ingrid	Flower	Ready to H...		Hydro	Female

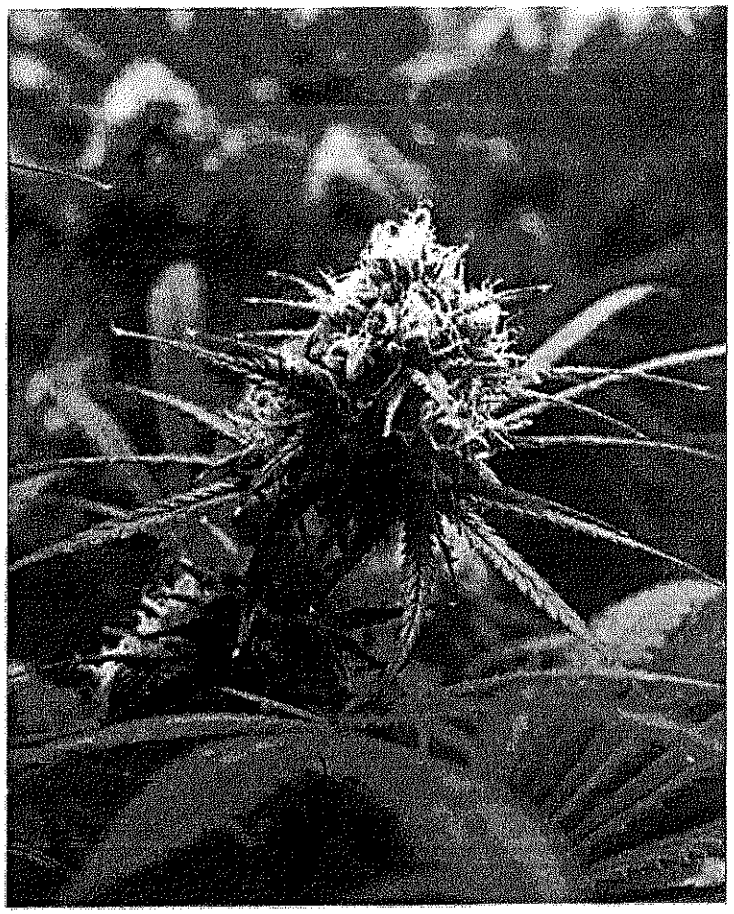
- Once again as the plants transition to the next stage in their development, the plants are moved to the next stage in the inventory tracking system as well.

Welcome to Flowering Room

Stage 4 - Flowering

Becoming Medicine

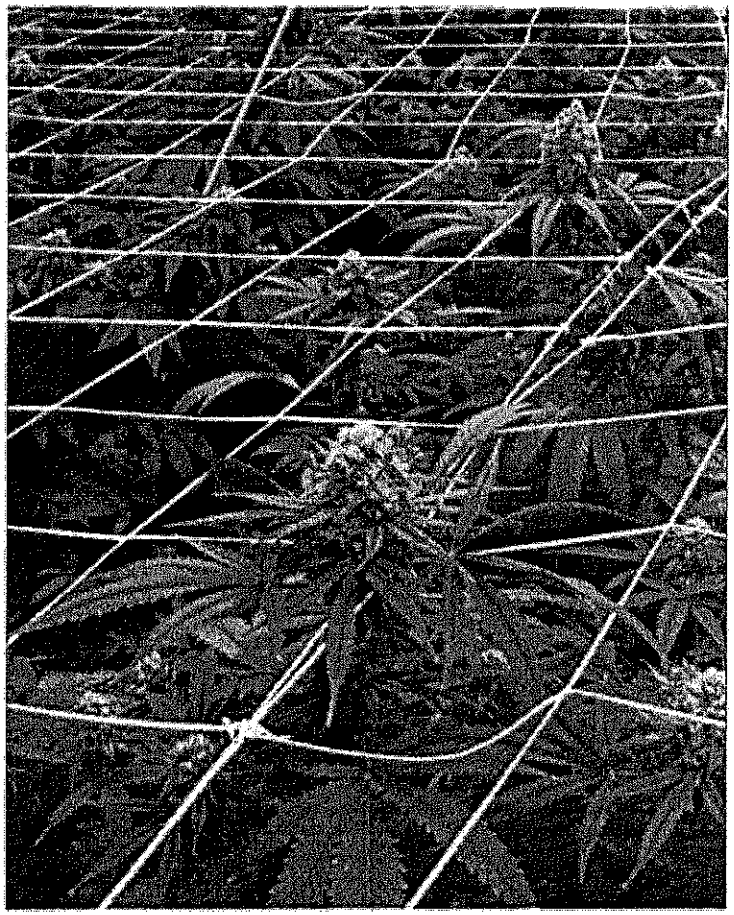
- At this stage plants develop their medicinal properties
- Plants are switched from the vegetation light cycle to the flowering light cycle: 12hrs on, 12hrs off



Stage 4 - Flowering

Becoming Medicine

- Plants remain tagged and tracked
- Nutrient protocols and environmental controls are monitored

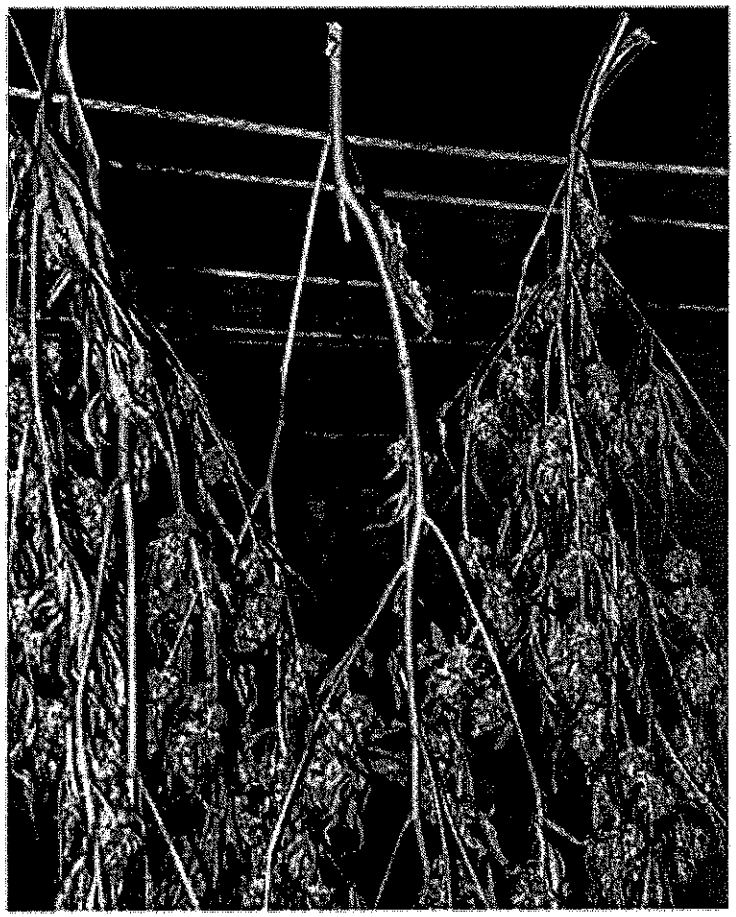


Welcome to the Dry Room

Stage 5 - Dry Room

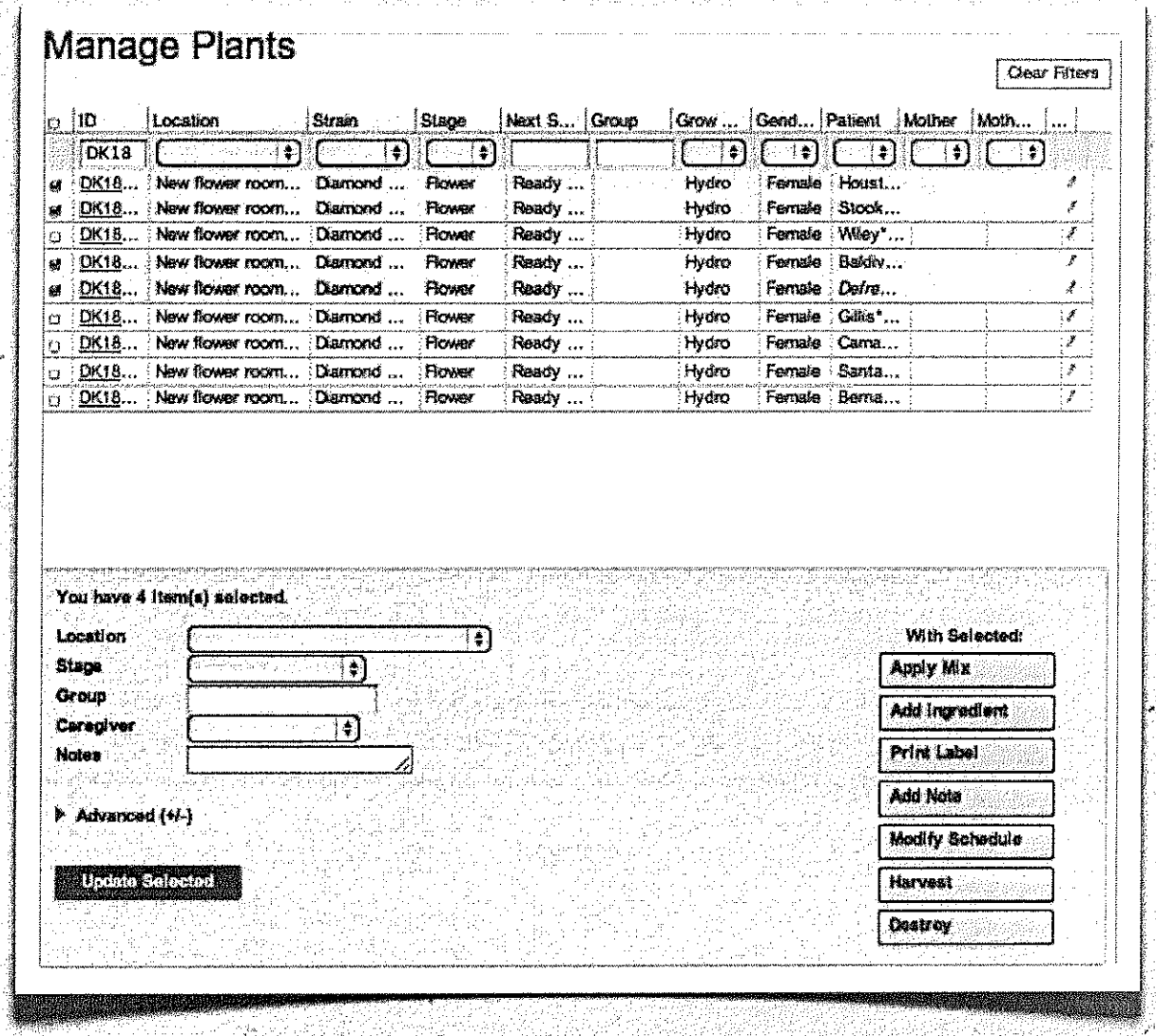
The End of Plant Life

- Plants are cut down and the more comprehensive tracking begins
- Individual plants from the flowering cycle are collected and moved into batches
- All batch weights are tracked and recorded



Stage 5 - Dry Room

Inventory of the individual harvests begin by utilizing the inventory tracking software. To start this process, individual plants are collected and grouped into batches. These batches are then labeled using End User naming protocols



Stage 5 - Dry Room

Batch weights tracked at this particular stage include the following:

-Total Wet Weight of the entire batch

-Discarded Fan Leaves, or waste

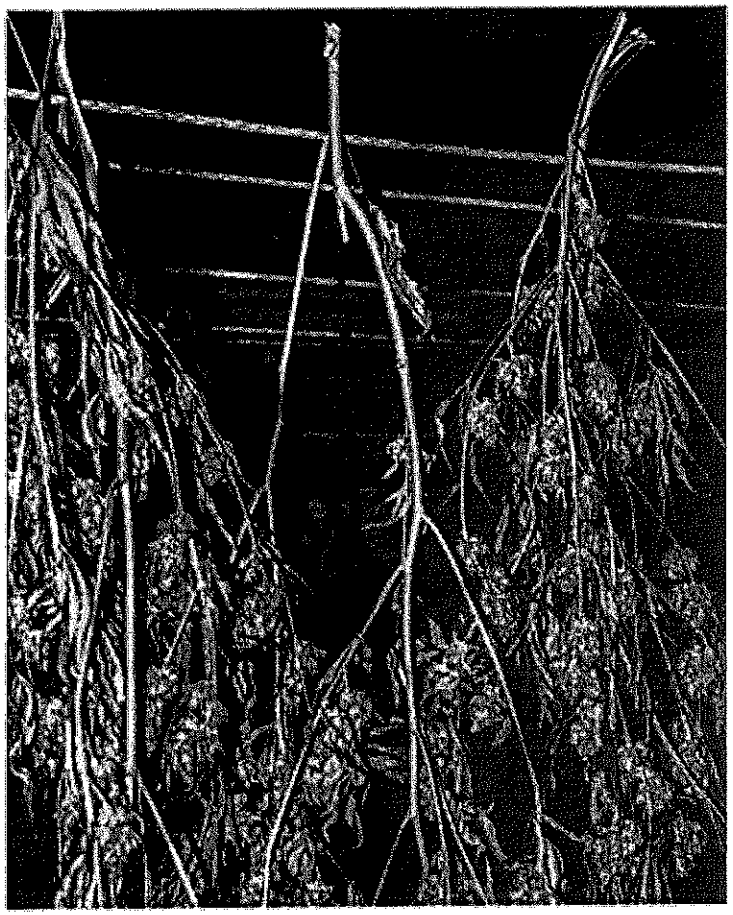
- % of Waste to Total Weight

Batch	Plant Count	Total Weight (in lbs)	Fan Weight (in lbs)	% of Total Weight
I17.82812.1 WS	15.00	32.40	6.60	20.37%
I17.82812.2 WS	15.00	30.90	6.20	20.06%
I17.82812.3	17.00	42.50	8.60	20.24%
NB17.82812.4	5.00	15.00	3.00	20.00%
I17.82812.5	15.00	24.20	4.90	20.25%

Welcome to Harvesting

The Medicine Develops

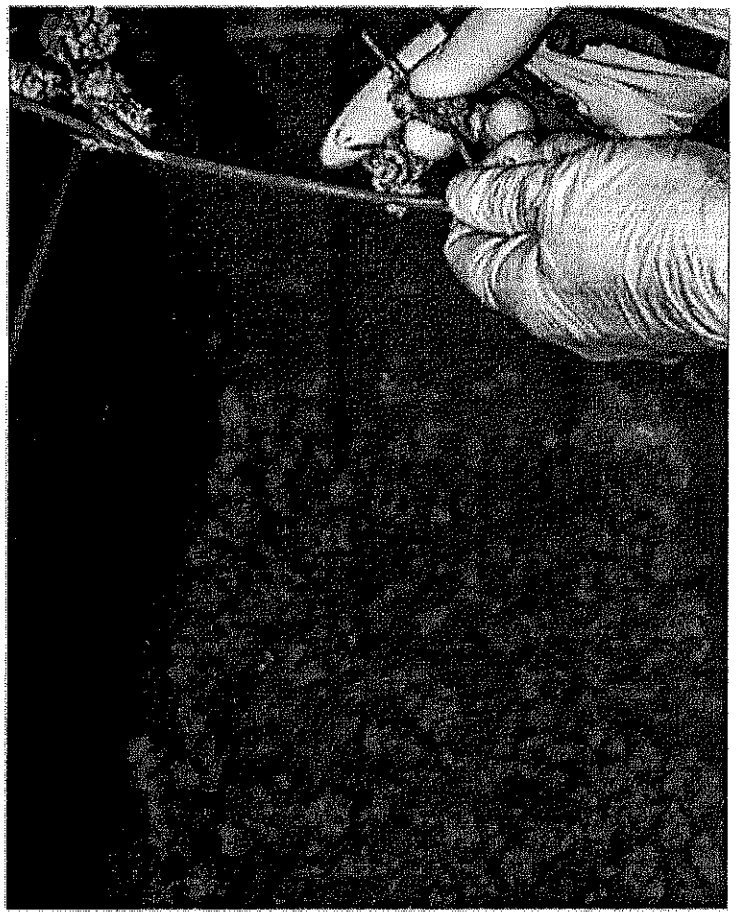
- During this process the water in the plants is released in an controlled manner
- The medicine begins developing its characteristic smell, taste, and potency



Stage 6 - Harvesting

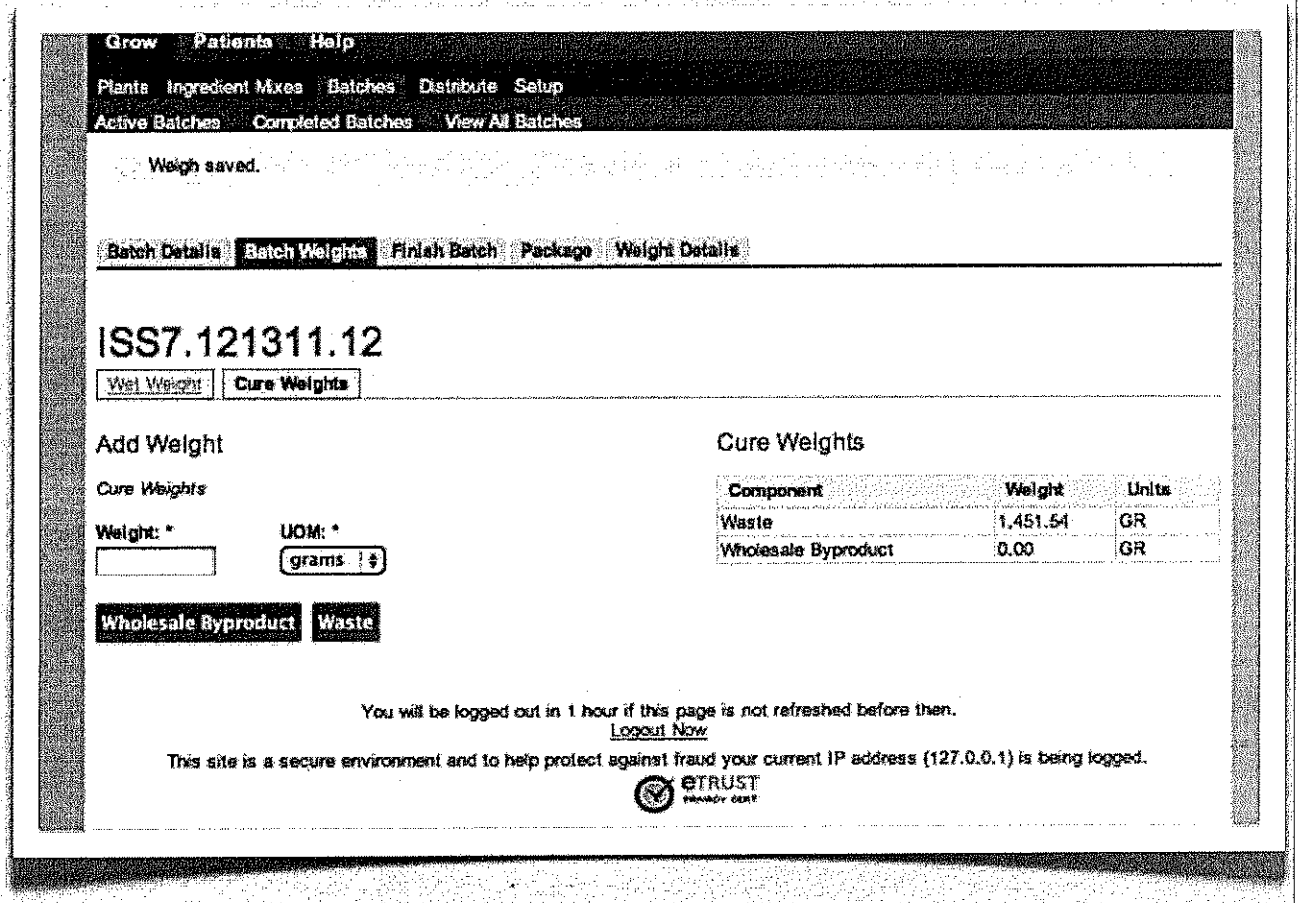
The Medicine Develops

- The next phase of the curing process is De-boning, the process of removing the cured flowers from the sticks or stems
- Metrics gathered at this stage are:
  - Weight at pulldown
  - Stick/Stem, or waste
  - Untrimmed flowers
  - Moisture loss



Stage 6 - Harvesting

Once the Drying/Curing phase begins, the inventory tracking system collects data for Waste, or Stick Weight.



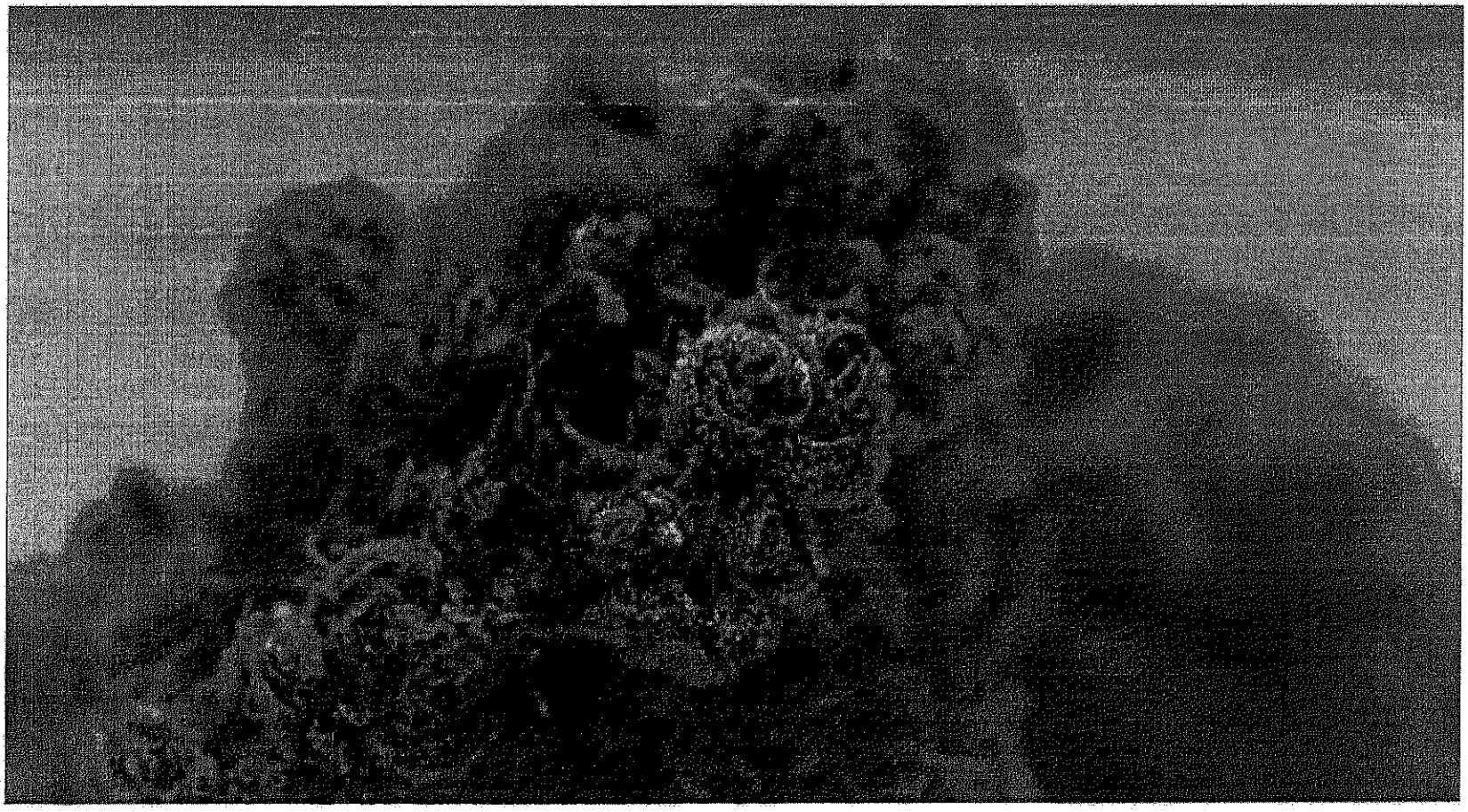
Stage 6 - Harvesting

Batch	Stick Weight (in lbs)	% of Total Weight	Weight at Hanging	Weight at Pull Down	% Difference	Date Pulled Down	Date De-Boned	Unfinished Flower Weight (in grams)	Unfinished Flower Weight Dispensed	% Difference
I12.42012.1	1.60	4.42%	29.20	6.60	22.60%	26-Apr-12	26-Apr-12	2628	2628	100.00%
I12.42012.2	1.60	4.17%	31.00	6.00	19.35%	26-Apr-12	26-Apr-12	2498	2496	99.92%
I12.42012.3	1.40	4.00%	27.80	6.20	22.30%	26-Apr-12	26-Apr-12	2373	2372	99.96%
I12.42012.4	1.20	4.26%	22.20	4.40	19.82%	26-Apr-12	26-Apr-12	1812	1824	100.66%
I12.42012.5	0.80	3.88%	16.20	3.00	18.52%	26-Apr-12	26-Apr-12	1324	1336	100.91%
ISS12.42012.6	1.20	3.30%	29.40	5.80	19.73%	26-Apr-12	26-Apr-12	2264	2273	100.40%
ISS12.42012.7	1.20	4.05%	24.80	5.00	20.16%	26-Apr-12	26-Apr-12	1855	1868	100.70%
FLO12.42012.8	0.60	5.36%	7.60	1.60	21.05%	26-Apr-12	26-Apr-12	738	740	100.27%
ATF12.42012.9	0.40	5.26%	5.80	1.80	31.03%	26-Apr-12	26-Apr-12	655	654	99.85%
CHOC12.42012.10	0.20	2.78%	5.80	1.80	31.03%	26-Apr-12	26-Apr-12	597	603	101.01%

In addition to the data collection of the inventory tracking system the following weights are collected:

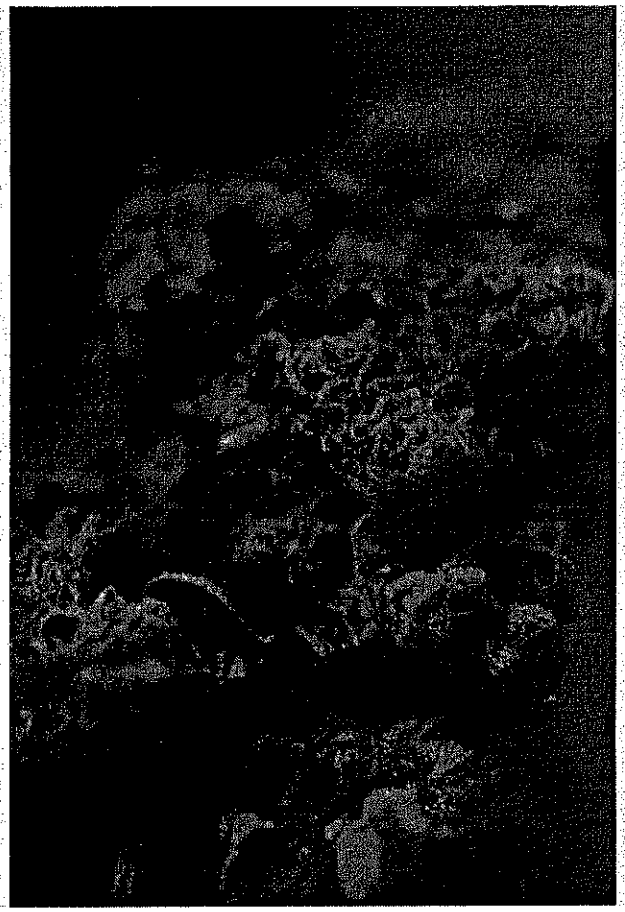
- Stick weight
- % of stick weight to total plant weight
- Plant weight at the time of pull down
- Untrimmed Flower.

Welcome to Trimming



Stage 7 - Trimming

- All product is closely tracked during the trimming stage
- Weights that are tracked at this stage include:
  - Untrimmed flowers
  - Trimmed flowers,
  - Wholesale byproduct, or "Shake"
  - Total amount of medicine received from trimmers



Stage 7 - Trim Process

Batch Details | Batch Weights | Finish Batch | Package | Weight Details

SD13.51712.41

Wet Weight | Cure Weights

Cure Weights

Component	Weight	Units
Waste	816.49	GR
Wholesale Byproduct	219.00	GR

HP7.121611.55

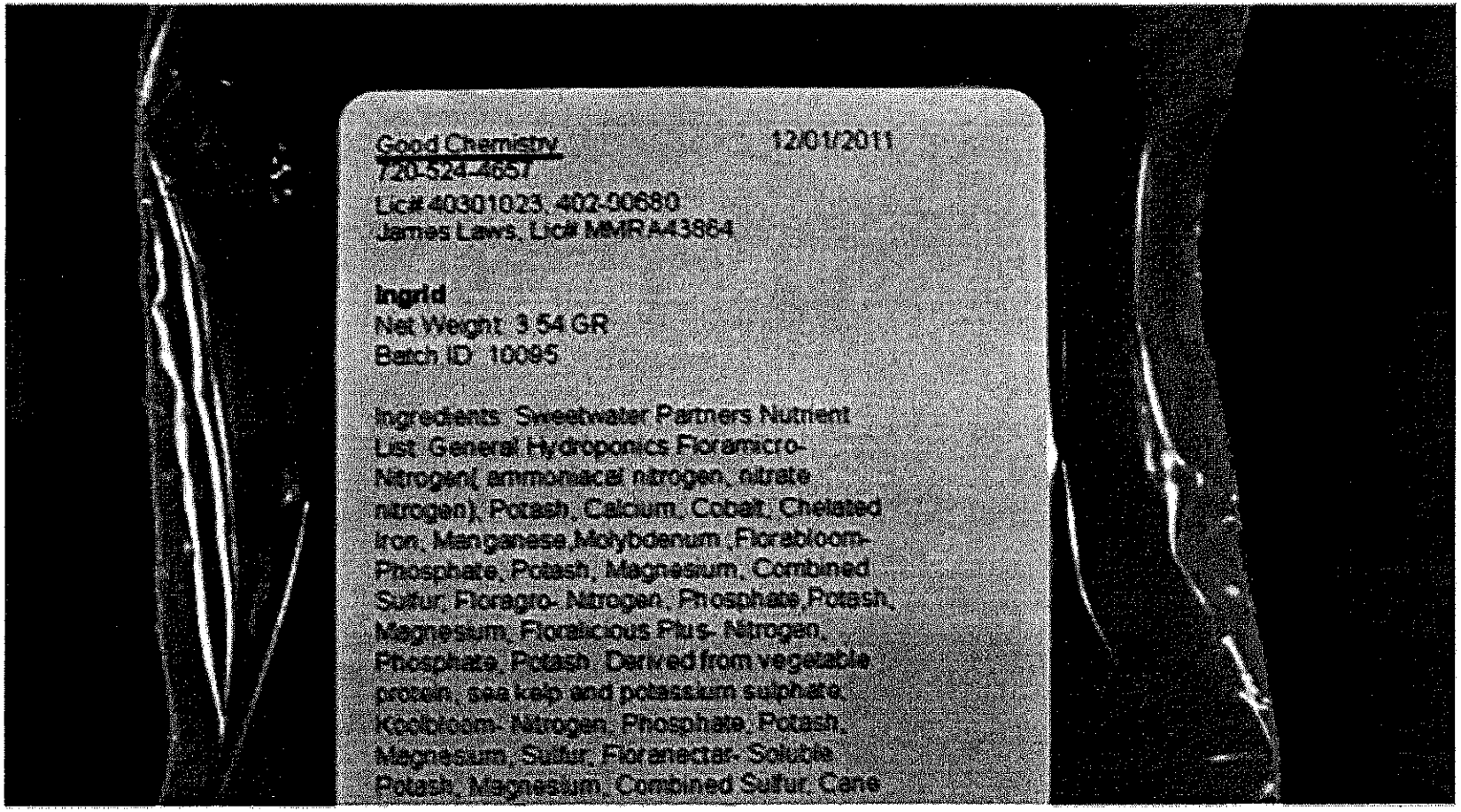
Finish Batch

Once this batch is done curing and ready to be put into packages, click the "Finish" button below.

Finish

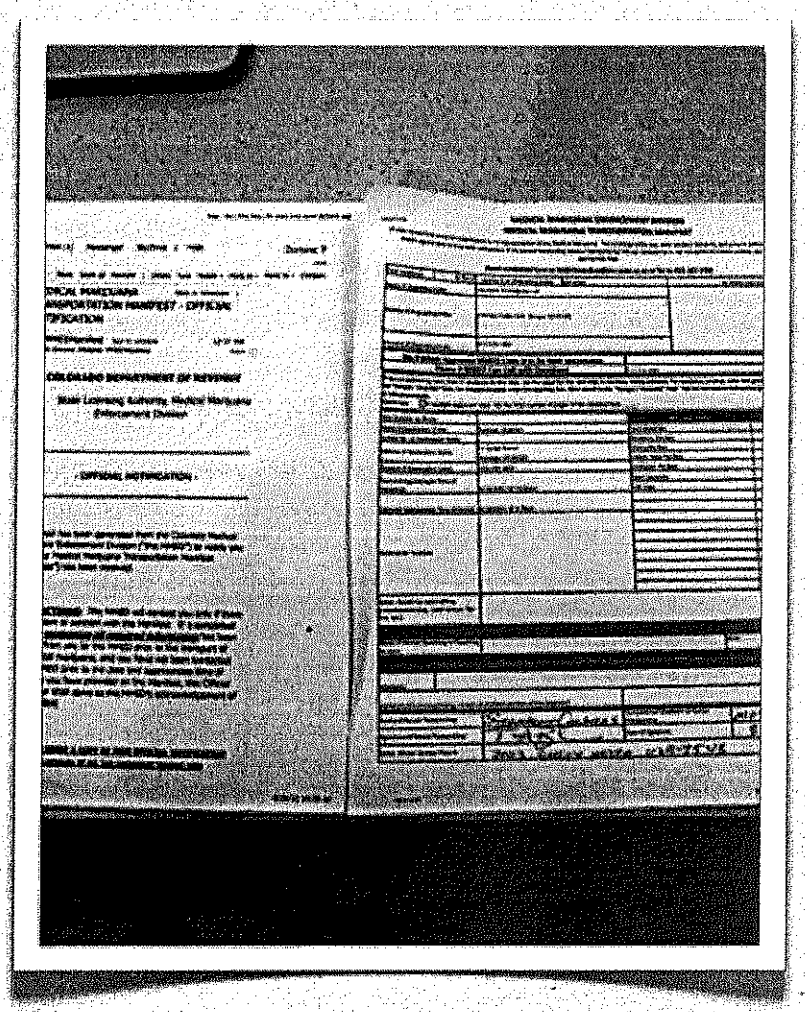
The next step of the process in the inventory tacking system is to Finish Batch, which allows the trimmed medicine to be packaged for delivery.

Welcome to Packaging and Transportation



Stage 8 - Packaging and Transporting

- Once batches complete trimming, the medicine is packaged and made ready for transport
- Travel Manifests are created for the safety and protection of the person(s) transporting the medicine



Stage 8 - Packaging and Transporting

- The inventory tracking system allows for either entire batches or specific weights from batches to be packaged
- The inventory tracking system will automatically create individual package ids for transit
- Once created the packages are ready to be transported to the center

Batch Details | Batch Weights | Finish Batch | Package | Weight Details

JFT17.82912.51

Create a Package

Package ID:

Leave blank for an auto-generated package code

Product Weight: * UOM: * grams

Weight of the product only

Gross Weight: * UOM: * grams

Weight of the product plus its packaging

Package Notes:

Print a Label.

This package completes the batch.

Create Package

Enter Weight

Weight: * UOM: * grams

Wholesale Byproduct | Waste

Batch Packages

ID	Created	By	Weight	Gross Weight
10954	September 21, 2012 - 09:48	Will	446.7000 GR	708.0000 GR

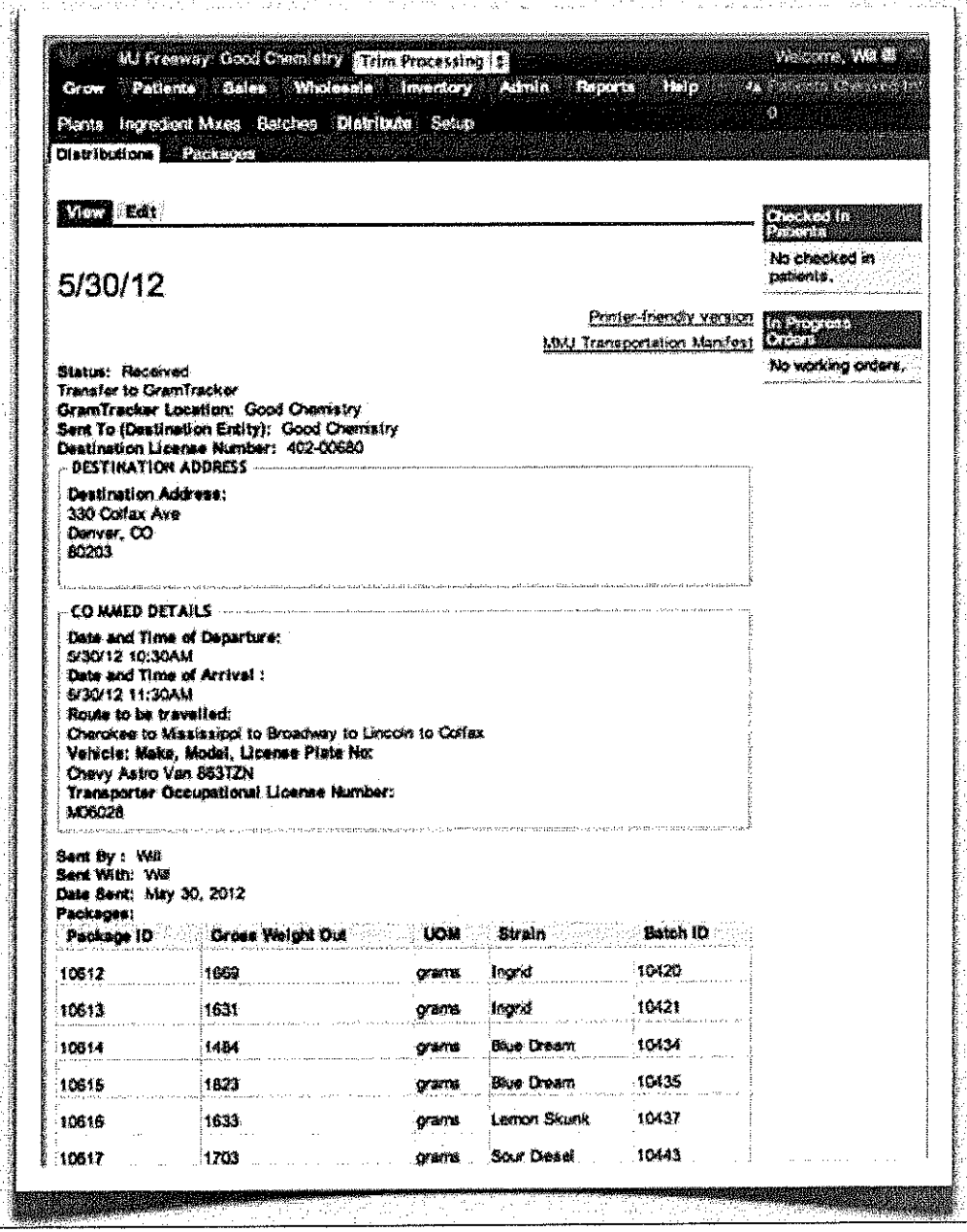
Complete the Batch

Close Batch

Stage 8 - Packaging and Transporting

Distribution:

The distribution feature of the inventory tracking software is the only method used for moving the medicine from the farm to the center. All delivery information is tracked and logged for the Medical Marijuana Enforcement Division (MMED), including vehicle information, and license information of the person delivering the product, route of delivery and delivery schedule.



Post Trim/Distribution Metrics

- The following data is collected during the transportation/ distribution phase.
  - Weight available to center
  - Weight transported to center
  - Any loss
  - % loss

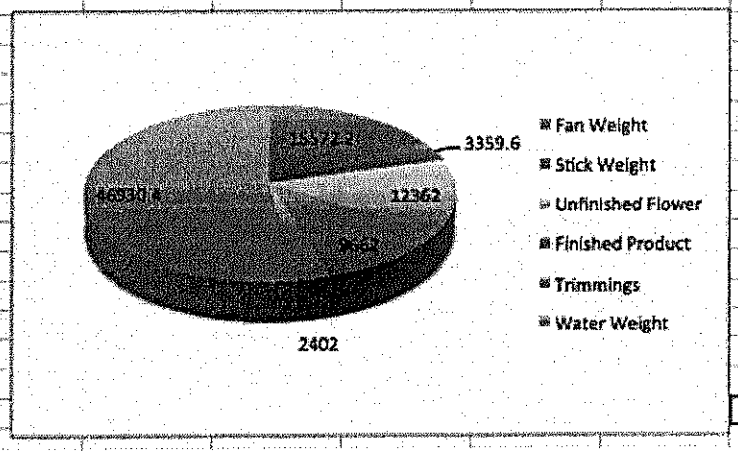
- Collection of data allows company to mitigate loss due to evaporation, waste, and theft

Post Harvest

Once Harvest is complete, a full analysis of the harvest is conducted. Strain by strain, a breakdown of each batch depicts how much weight is loss during the lifecycle, where in the course of the harvest lifecycle the losses occur and the degree to which it effects the end result. These numbers are then graphed to present a visual summary of the strain.

Strain	Total Weight	Fan Weight	Stick Weight	Unfinished Flower	Finished Product	Trimmings	Water Weight
[redacted]	11804.00	2406.2	544.8	2072	1636	389	6781
	14982.00	2814.8	635.6	2493	2003	441	9038.6
	12167.20	2224.6	681	1850	1475	339	7411.6
	15345.20	2996.4	499.4	2287	1795	442	9562.4
	14164.80	2996.4	590.2	2235	1646	509	8343.2
	9761.00	2133.8	408.6	1425	1107	282	5793.6
	78224.20	15572.2	3359.6	12362	9662	2402	46930.4

Plant Count- 80



Future Improvements

- RFID Technology. By utilizing this technology, gardens will have better control and quicker access to their inventory, and will require less labor thereby cutting costs.
- Sweetwater Partners hopes to be implementing this technology and controls by Q2 2013.