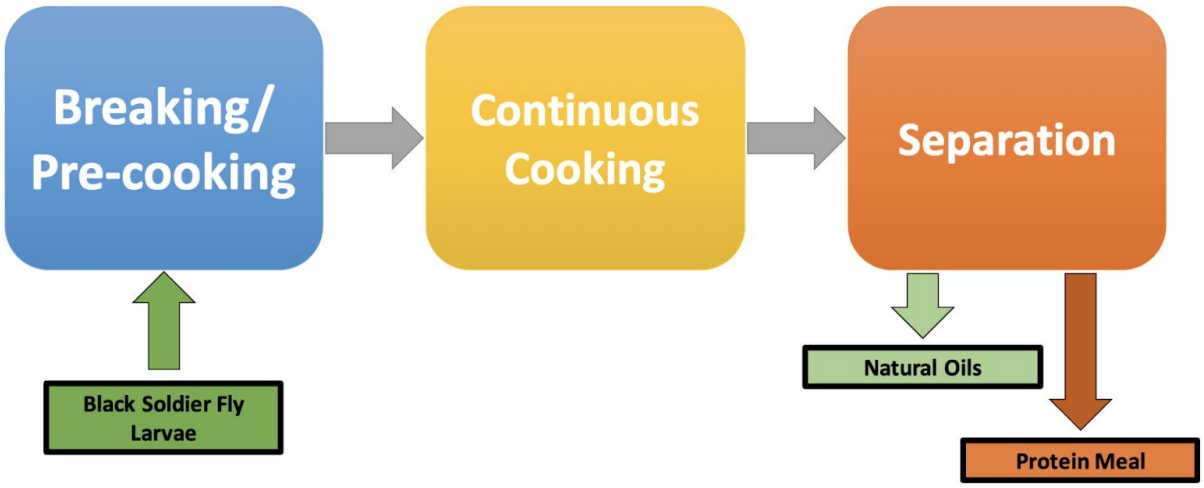
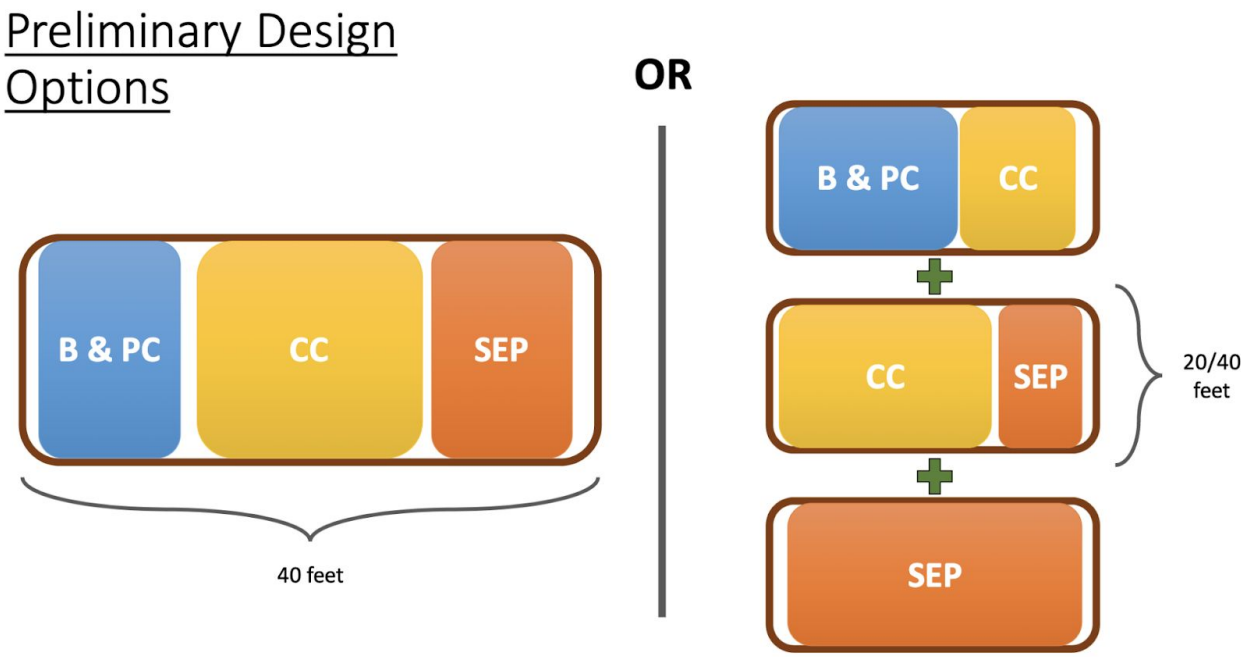
Design Iteration

Please note, not every version has related 3D CAD design. We only made two CAD drawings one for version 2, and another one for version 4 to reflect the schematic changes.

Option 1, Version 1

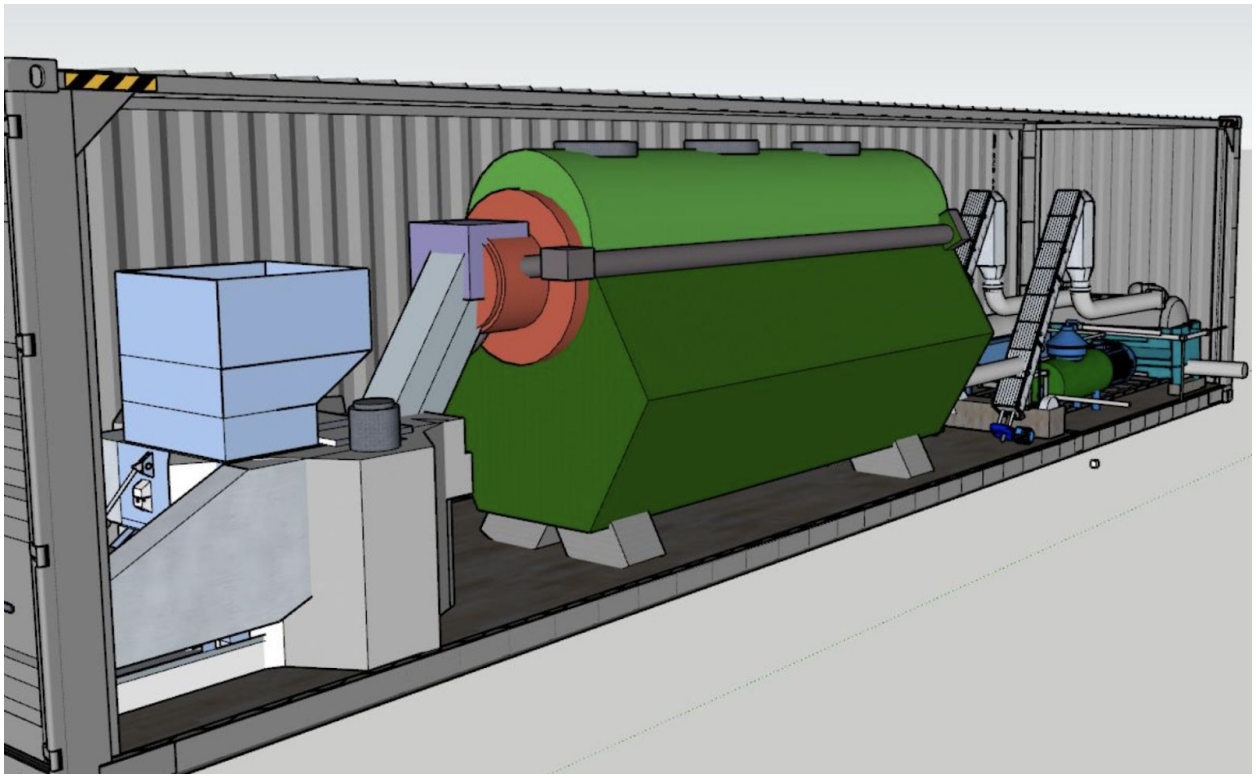
Preliminary Design Idea

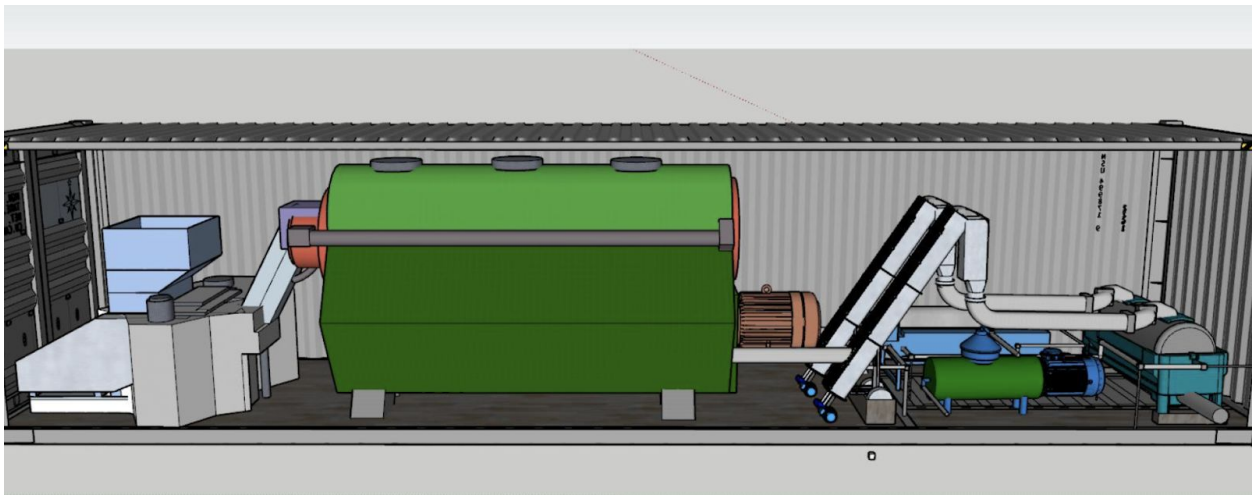




Option 1, Version 2

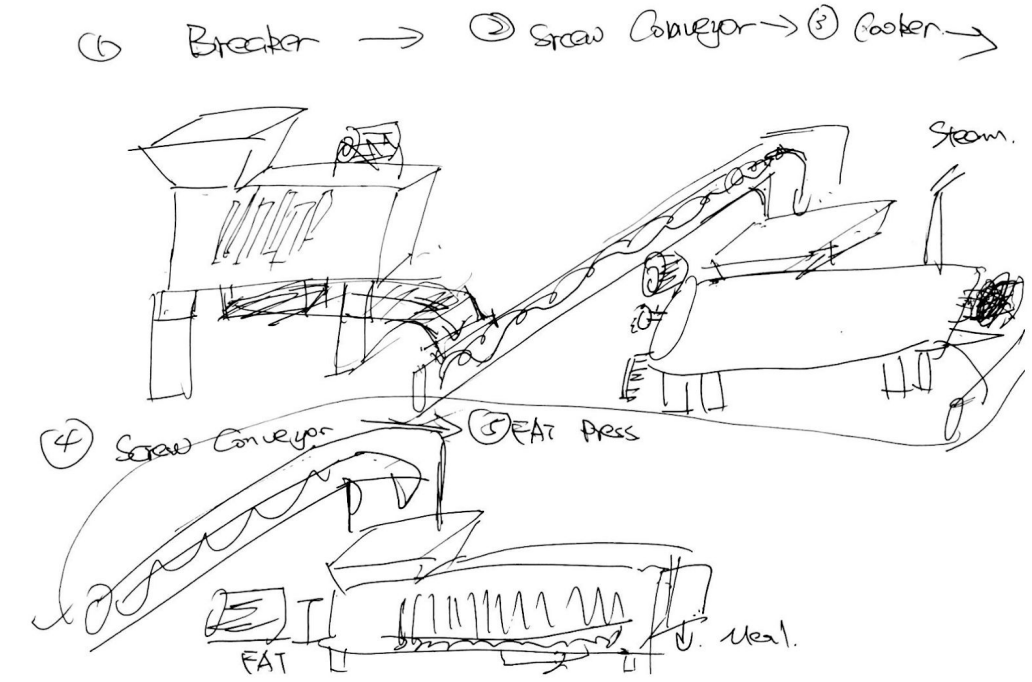
A SketchUp drawing was done to represent our design ideas.

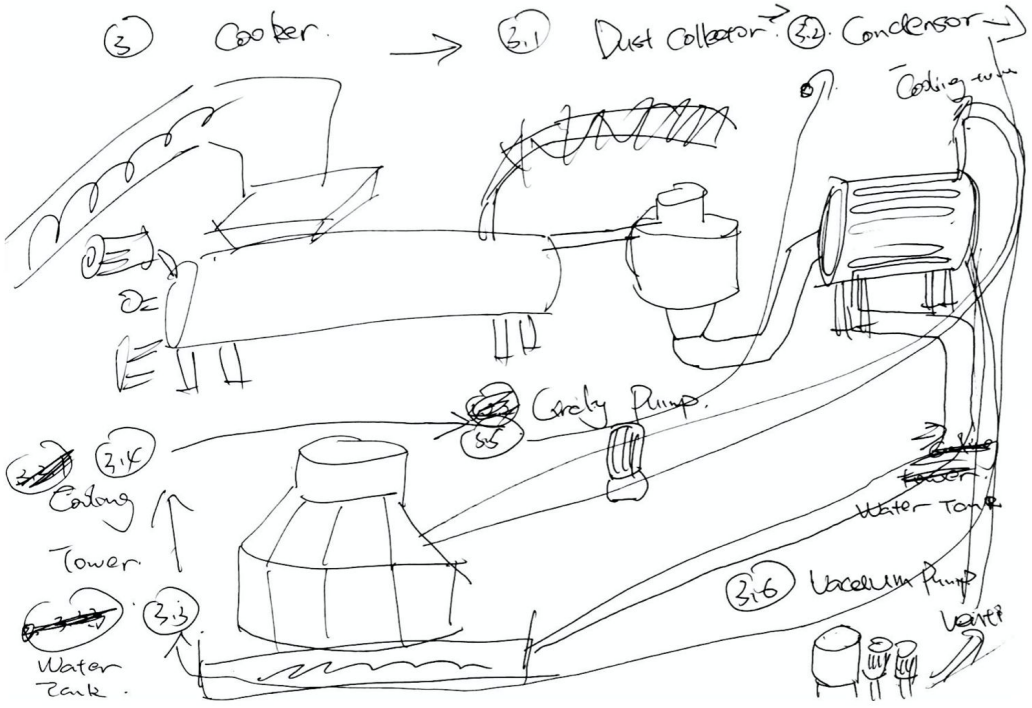




Option 1, Version 3 (major improvement)

Based on the client feedback

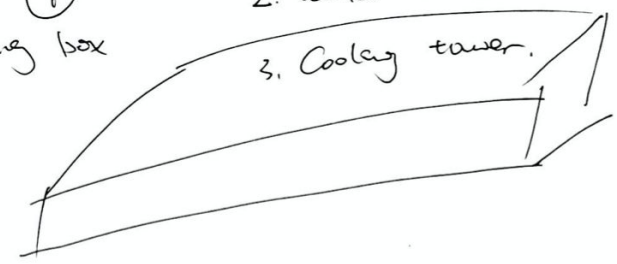




Option 1

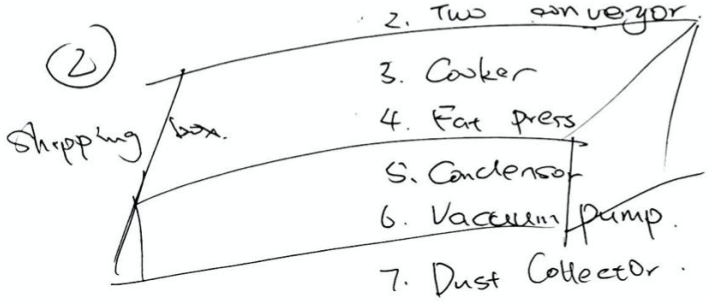
1. Electricity Heating Equipment.

(1) Shipping box



2. Water tank
3. Cooling tower.

(2) Shipping box.

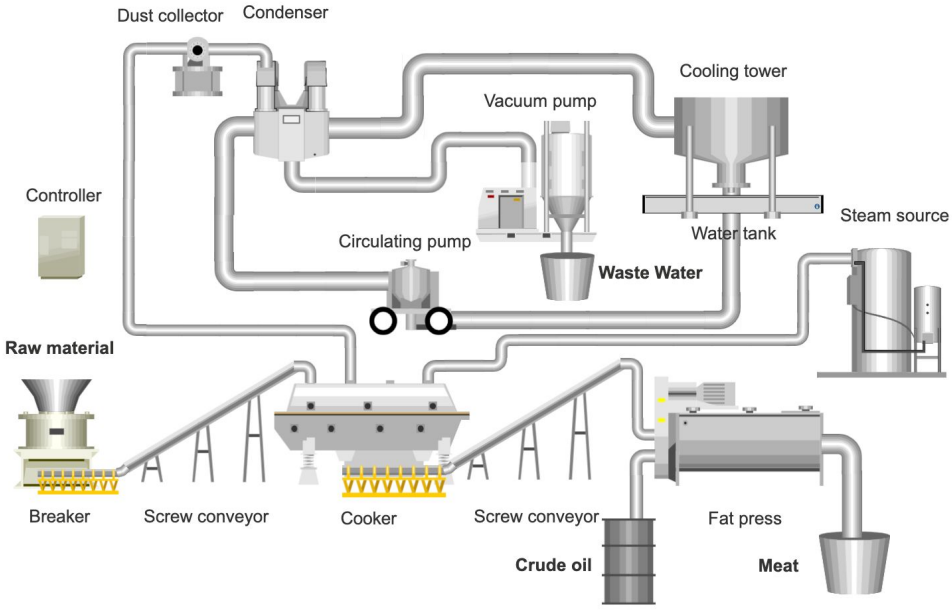


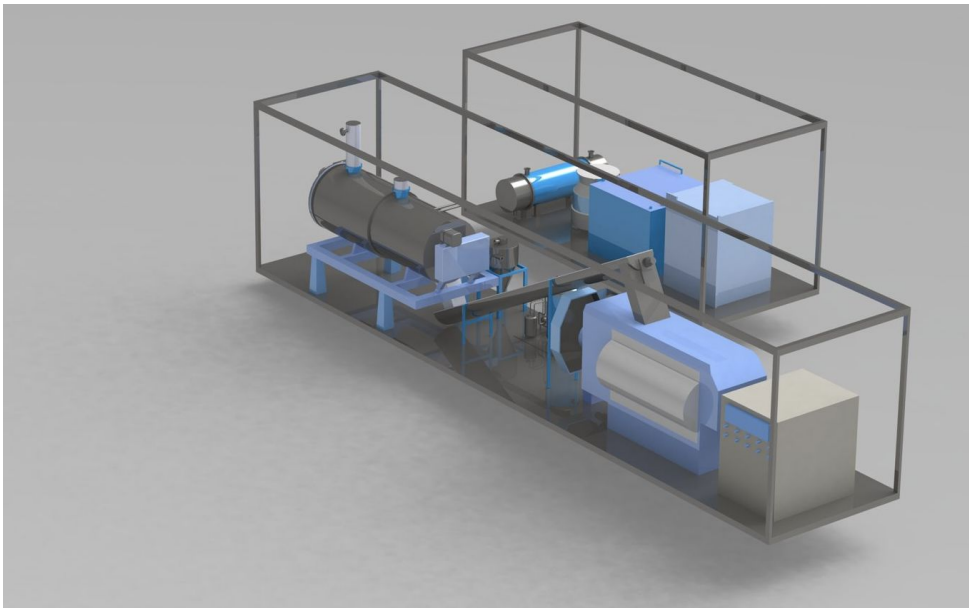
1. Breaker
2. Two conveyor
3. Cooker
4. Fat press
5. Condensor
6. Vacuum pump.
7. Dust Collector.
8. Controller.
9. Oil / Meal storage.
10. Ventilation system

Option 1, Version 4 (final version)

Moved to Solidworks

Removed breaker as the insects are small enough
Removed the oil and meal storage system. Because they can be out of the container and connected on the site.
Added condensor, cooling tower, water tank and vacuum pump to condense the evaporated vapour.





Option 2, Version 1

Schematic Diagram

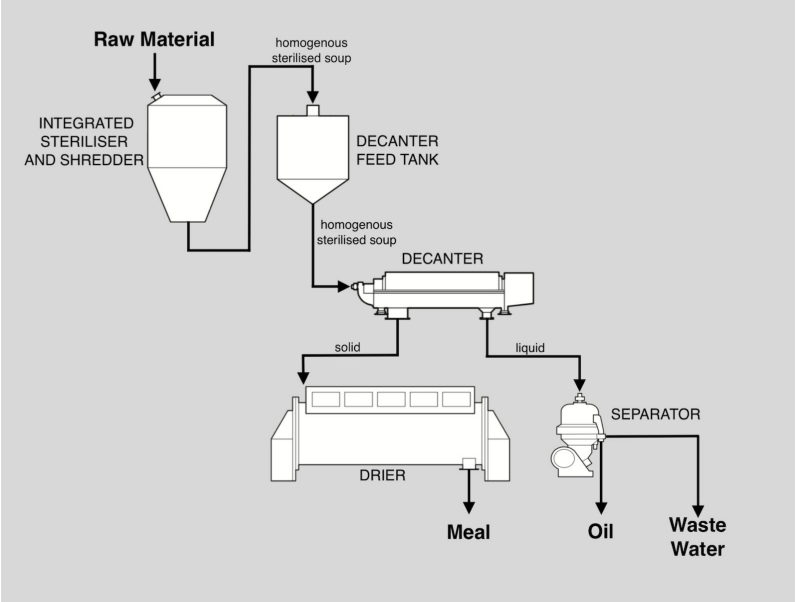


Figure 1, Schematic diagram of the alternative process

This diagram is based on the design of the ISS AGRI facility produced by Celitron. A video demonstration is avaliable on https://youtu.be/yabpYFAT6sk

Figure 2, 3D drawing of the components (Celitron, 2017)

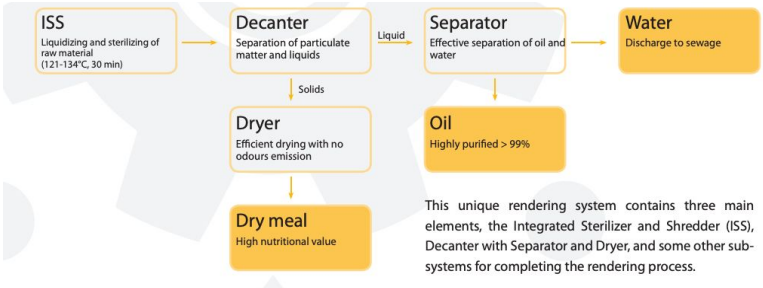


Figure 3, components and their functionalities (Celitron, 2017)