
**Recent grant
including JOHNSON-
SU COMPOSTING
SYSTEMS**



*KONA SOIL AND WATER
CONSERVATION DISTRICT*

GRANT-Kona Conservation

MINI GRANTS

\$240.000

Up to \$10,000/landowner

Practices not covered by NRCS farm bill programs.

Innovative approaches that address Kona's key resource concerns

**Examples of Innovative
practices/approaches**

Regenerative agricultural

Korean Natural Farming

Dr Elaine Ingham Soil Food Web

Cameras to monitor livestock
watering systems

Johnson-Su Bioreactor and the benefits of Composting

Adding compost and organic matter is critical to maintain Kona's fragile soil and to prevent leeching and runoff of nutrients.

Compost provides nutrients to plants, helps to build soil structure and retain soil moisture.

A good compost is full of microbial life with a balance of fungi, bacteria, protozoa, nematodes, etc.

Many compost systems are designed for speed not allowing for compost to break down completely and soil microb communities have not developed. In addition, the static piles require turning and are labor intensive.

Johnson-Su Bioreactors or composting units



- The Johnson-Su units never need turning, never smells and does not attract flies.
- The design allows for aerobic breakdown resulting in a microbially diverse, fungal-dominant compost product.
- The mature compost can be applied as an extract, applied to seeds or directly as a soil amendment.
- A healthy soil full of microbial life can reduce the need for commercial fertilizers.
- The Johnson-Su units are easy and cheap to construct.

Required materials and tools



- Landscape cloth, 25'x6'
- One standard pallet, 40x48"
- Wire 5'x13' to create a support cage
- Tie wire
- Landscape water hose for drip irrigation system-13'
- Four 10' lengths of perforated 4-5" PVC

Constructing the Johnson-Su Bioreactors

2) Cut holes in pallet, cover with fabric and insert PVC pipes



1) Place pallet on level ground, preferably under a roof. Keeping wet is critical and a mini-irrigation system is recommended.



Step 3, cut fabric, attach to wire frame and mount on pallet. Ensure PVC is inserted.



Use chipped material and drench in water before putting in bio-reactor.



**Fill with drenched
organic matter.**



Fill it to the top and let it sit under cover for one year, ensuring it is kept moist.



Kona Hills Farm is currently creating large volumes of Johnson-Su compost to reduce commercial fertilizer inputs.



Next steps and conclusion

Wait for final approval from National Association of Conservation District.

Begin to take applications.

Conduct outreach and implement program over a 3-year period.

