COMPOSTING A REAL ALTERNATIVE TO HIGH DENSITY PIG OPERATIONS IN CHILE

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AGROSUPER alimenta

AGROSUPER Chile

- The biggest agricultural company in Chile
- The holding is composed by different operating companies

AGROSUPER

Chicken, Turkey, Pork and Salmon

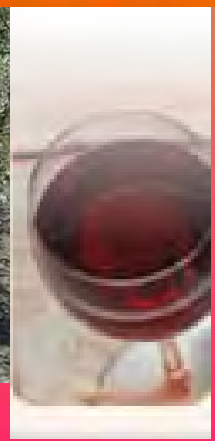
Vertical integration strategy

Animal breeding, feed production, slaughtering, packing and distribution

La Crianza

AGROSUPER

2,600 hectares of land planted to produce grapes, apples, kiwis, peaches, nectarines, plums, lemons, oranges, avocados, walnut, almond trees and olives. The large majority of their production is exported to the United States, Europe, Asia and Latin America, and it exceeds 2 million boxes per year.

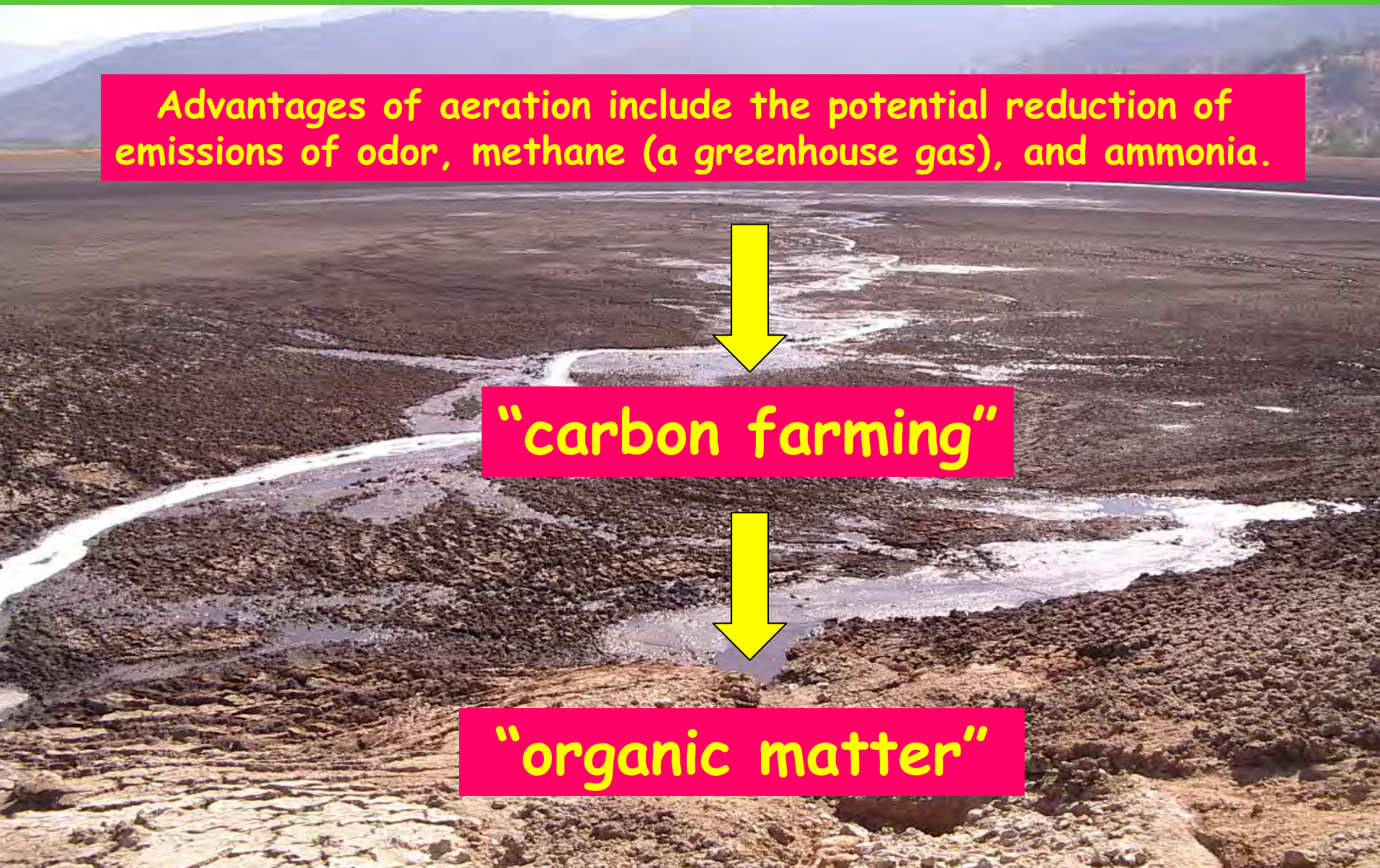


AGROFORESTAL CORNECHE

1, 2 million pig generating approx. 300,000 ton of manure annually.
Highest density of pig in the world Melipilla Central Valley, Chile.

Why Composting?

Why Not Composting?



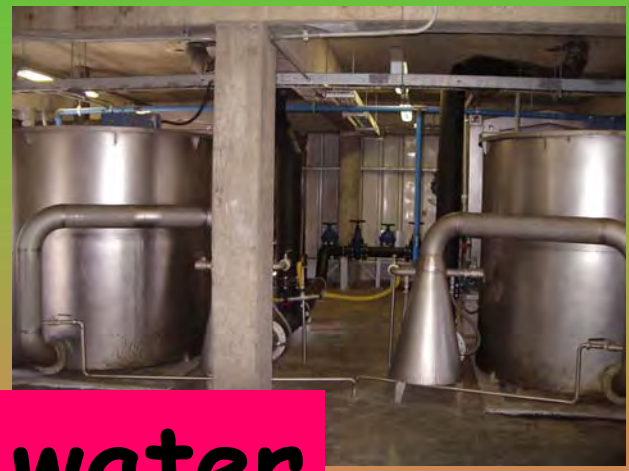
Advantages of aeration include the potential reduction of emissions of odor, methane (a greenhouse gas), and ammonia.

"carbon farming"

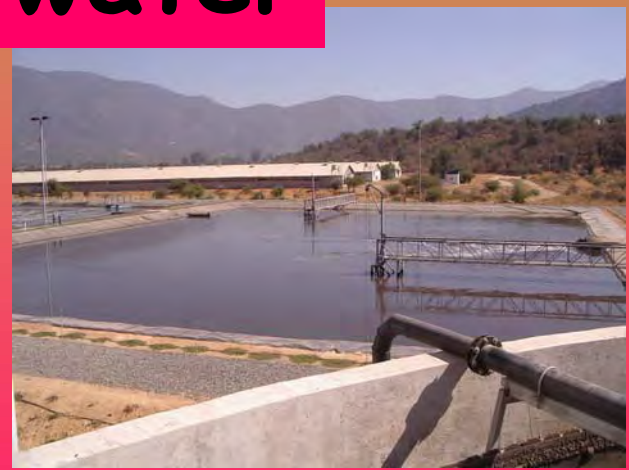
"organic matter"

Pig Production Process!

Four Aerobic Pre-Treatment Facilities

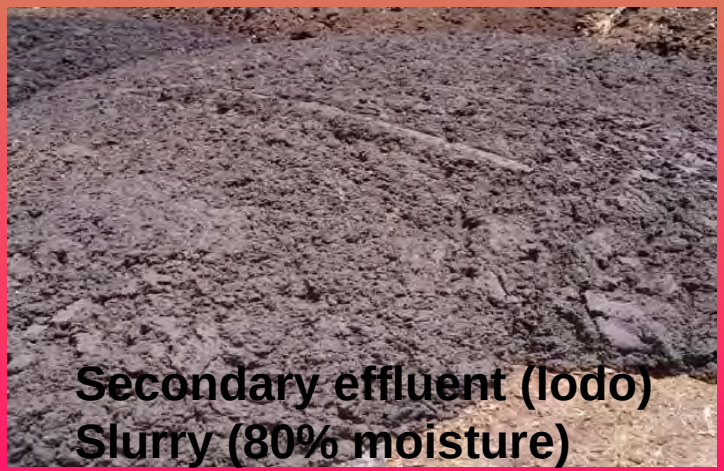


Liquid = water



The Four Treatment Plant Generated Two Solid Residues and Water

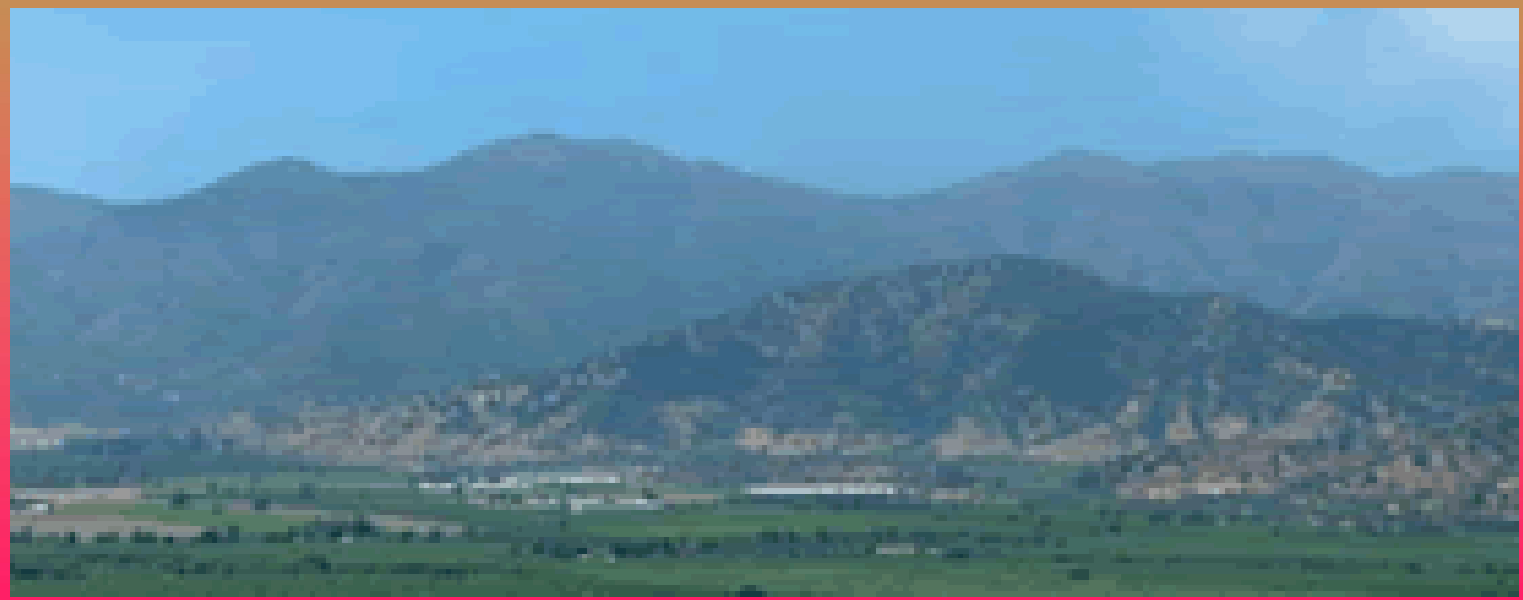
Primary effluent (guano)
Pressing the raw pig manure
(60-70 % moisture)



Secondary effluent (lodo)
Slurry (80% moisture)

Composting Facilities

- These materials are been composted in four composting facilities located in close proximity to the pig production areas around the Melipilla Central Valley.



Four Composting Facilities

La Estrella (30 acres)

La Manga (8 acres)
La Manga #2 (28 acres)

Tantehue (14 acres)

Maitenlahue (14 acres)

Challenges and Opportunities

- High in moisture content
- Low participle size
- High in Cu, Zn and EC based in the Chilean compost quality regulation.
- Weather conditions in the summer are dry and hot and during the winter are wet and cold/cool.

- Even though compost it is not well know in the market. Melipilla Central Valley offers a tremendous potential for a variety of compost users such as fruit, wine yards and ornamental in close proximity plus high inputs of fertilizer.

How to Improve Composting Process!

- Drying area for the fall, summer and spring
- Buying bigger turning equipment
- Increase pile size
- Reduce residues on the side of the piles to reduce odors
- Mixing "*In Situ*" instead mixing area
- Improve composting pad
- Planting trees around composting site to reduce odors
- Improve C:N ratio


Drying Area for the
Fall, Summer and Spring

Buying bigger turning equipment

Increase Pile Size
Pile: Residues Side Reduction to Reduce Odors

Improve C:N ratio

Mixing “*In Situ*” instead Mixing Area


Planting Trees around Composting Site
to Reduce Odors

Improve Composting Pad

Difficult!

Potential Market

- Melipilla Central Valley offers a tremendous potential for a variety of compost users such as fruit, wine yards and ornamental in close proximity with high inputs of fertilizer.

Compost Workshop (120 peoples)

Current and Future Projects

- Reduced the electrical conductivity by reducing NH_4-N.
- We are in the process of tracking the sources of Cu and Zn therefore be able to reduce them at the source.
- Reduced the impact of rainfall during the winter season

Conclusions

- Composting high density pig manure can be successfully achieved and the final compost can have a high quality in the Chilean market.