



Some Observations Regarding Waste and Waste Treatment From A Fish Farming Perspective

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What waste?

- Fish Farming can release large quantities of waste rich in N and P into the aquatic environment.
- Fish Farming is tightly regulated regarding both abstraction and discharge.
- Fish Farming may become more intensive with movement towards recirculation systems.
- Opportunity to turn a cost into a benefit?



Biological filtration of waste water is possible on extensive systems but needs large area.

May be possible to combine hydroponic type system to strip water soluble N and P to economic benefit?



Drum Filter System

Suspended solids and particulate waste can be filtered from the discharge water and stored for removal from site.



Storage System for Solid Wastes

Solid and semi-solid wastes are concentrated fertilizers.

This needs to be balanced or modified with further treatment to optimise its use as a plant growth promoter. (Research opportunities!)



Wildlife Viewing Area

When cultivated into soil fish farm wastes can benefit plant growth and provide either extra yield or biodiversity benefits.

Substrate from excavated ponds was used above to aid growth of pollen rich mix for wildlife viewing area.



Sweet Lupin

Sweet Lupins in the sown mixture proved particularly attractive to 3 species of bumblebee.



Red Clover

Red Clover and Perennial Chicory in the mix will provide longer lasting benefits to insects and other wildlife.

Conclusion

Rearing of any livestock will produce organic waste suitable as a plant growth enhancer with appropriate treatment.

Waste produced from fish rearing is currently not utilised for the above purpose and is currently a significant cost to the industry.

Extraction of this waste and appropriate treatment could reduce costs for land based agriculture and turn a cost into a benefit for the aquaculture industry

Research into this area is urgently needed.