Front Loader mounted Beet Chopper Michael Coman K00283972

Aim of Project

To fabricate a Front Mounted Beet chopper for the front loader of a tractor for ease of use, to feed Dairy cows to boost their milk production

Background

I come from a Dairy farm, where we focus on cows' health and diet, as a cow's diet is very important on the quality and yield of the milk it produces.



- In the past when feeding our cows during the winter we have only feed silage and concentrate meal.
- This can be a very costly diet when it comes down to economics. That is why Beet is a good substitute as it is a lot more cost effective and is a high energy feed for the cows.

Design

- Research existing Front mounted Beet Choppers.
- Create a model and workshop drawing of the Beet chopper in Solid works.
- Fabricate the Beet chopper to the measurements and high standard from my Solid works drawings.
- Carry out the express simulation to analysis the strength and fatigue of the implement on Solid Works.



Methodology

- Research.
- Drawing(Solid Works).
- Pricing/sourcing Materials.
- Get the bucket Plasma cut out.
- Source the auger.
- Fabricate the bucket.
- Construte the cutting disc.
- Assemble the beet chopper and plum it up.

Challenges

- Sourcing a company to fabricate an auger for me.
- Trying to solve what motor is needed.
- Drawing auger on Solid works.
- MIG welding was difficult as it was my first time trying it.

Materials	
PART	MATERIAL
Bucket sides	6mm plate cut out using plasma
Top support rail	4-inch pipe 6mm thick
Hardox cutting edge	12mm thick by145mm width and 5 foot long.
Cutting blades	180mm pipe and 12mm by 145 mm hardox
Auger	sourced

Conclusion

 I am coming to the end of the Project and have only to put in the auger into the bucket and the hydraulic pump and pipe it up.

