

Manufacture and design of a Yard Scraper

Ciaran Bourke K00273571



Aim of the Project

The Aim of the project is to design, build and test a tractor mounted yard scraper. The Scraper must push cow dung and also pull it.

Background

I researched many different designs of Yard Scrapers I looked at ones on local farms and also researched different designs online. I investigated what design would best suit me and what I wanted in my design. I carried out tests to see if the design I liked would perform the best.

Topic



Figure 1: Design idea 1

This is a local farmers yard scraper. I feel this design is overkill. To reduce cost I did not choose this design as there was too much steel involved in the design. The latch mechanism has failed in this yard scraper.

Topic

Idea 2

This is Fleming's design of yard scraper. I feel this design is too light weight. Also, the latch mechanism is known to fail in this design which I did not like.



Photo of: Fleming Agri design idea 2

Conclusion



Figure 3: Design idea 3

This is a local contractors yard scraper. I best like this design because the latch mechanism has lasted the test of time. This yard scraper is very old and still works very well. The structure is well built . It is very strong and also light weight. If I was to make a batch of yard scrapers I feel this design would be more financially suitable.

References

- Ruttle agri, Rathkeale, Co.Limerick.
- T and M Hanley Farms ltd
- Co-Op Superstores
- Fleming Agricultural



Photo of: Rough sketches made of yard scraper and possible ideas. In preparation for final drawings on SolidWorks.



Photo of: Current progress to date

This is the progress I have made to date I have the main frame built. I also have the channel iron that will hold the scraping rubber assembled and attached to the main frame. I currently have the rubber and will fit this to the channel iron. I must strengthen various aspects of the yard scraper with gussets and plates of steel.