IAgrE Student Awards

NOMINATION SUMMARY

IAgrE CNH Industrial Award* / Student Project Award*
Safety Award*
***please delete as appropriate:**

PROPOSER: (usually Course Director/Head of Department)

Name: Rhys James

Position: Lecturer

University/College: ColegSirgar
Gelli Aur Camps,
Home Farm
Golden Grove
Camarthen
SA32 8NJ

Contact details:	**Tel:01554748583**	**Email: rhys.james@colegsirgar.ac.uk**

DETAILS OF NOMINATION:

Name of Student/Group of Students:
Willian Heath

Personal contact details (i.e not college) to enable us to contact the student(s) once their course has ended:

Home Tel: **Mob:**07400682333 **Email:** theheaths6972@hotmail.com

Name of course studied: Level 3 City and Guilds Extended Diploma in Land based Technology

Period studied	**From: September 2023**	**To: July 2025**

Qualification to be gained:
180 Credit extended diploma

Project Title:
Dairy Parlour Wash Down

Details of material submitted with nomination: (Project/Exec Summary/videos etc)

Powerpoint presentation

SIGNED BY PROPOSER: DR James	**DATE SUBMITTED:** 22/10/25

If you wish to provide any additional information to support this nomination, please do so in a covering letter. When complete, return this form, together with the supporting documents, to

The Secretariat, IAgrE, The Bullock Building (Bldg 53), University Way, Cranfield, Bedford MK43 0GH
secretary@iagre.org

NB All work submitted is treated with complete Confidentiality; no part of the paper will be published by IAgrE except for the Title and Name of the winner in each category.

Land based Technology
Level 3 Year 2 Project 2024-2025
Unit 333

William Heath

Who am I

Hi my name William Heath I am 18 years old. I live in St Clears.I am studying agriculture Engineer level 3

I also work at Ty Canol farm with a herd of 180 milking cows.

Career aspirations

After completing the course and gaining a good grade.

I want to go and work with in the industry of agriculture.

See if I can go abroad in the future

Aims and Objectives

Look into 3 concepts/ideas to either improve,create or make safer in agriculture.

By developing new ideas or modifying existing ones, already on the market.

The objective is to successfully manufacturer and present my product to distinguished panel of judges.

Concept

Herringbone parlour floor washer (walkway washer).

Using a steel pipe with multiple nozzles along the side of the pipe.On the inside of the parlour facing out toward the feeder shoots.

Using water from the volume washer pump down the pipe to wash any muck and sand away down to the drains.

Operated by a simple valve moved by a lever.

Why did I chose this idea?

Feet and walk way are cleaned automatically

Save time in multiple ways when milking

Can be used in different applications as well

Possible soap dispensers for better cleaning

Almost all dairy farmers have volume washers

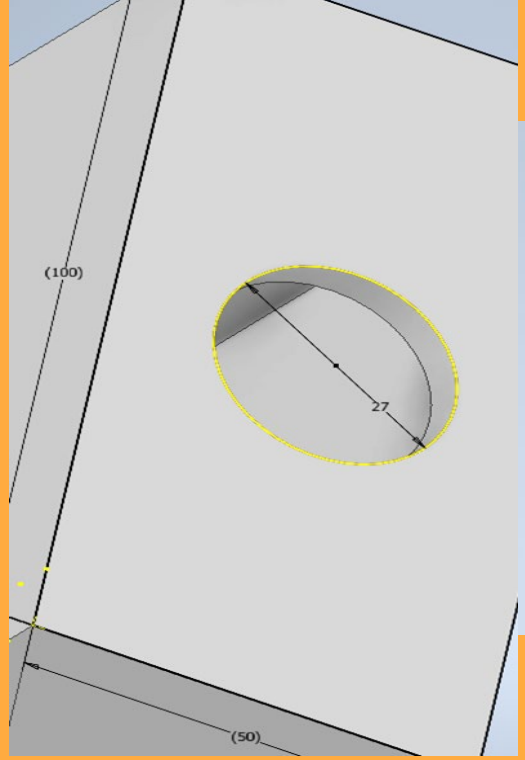
Research

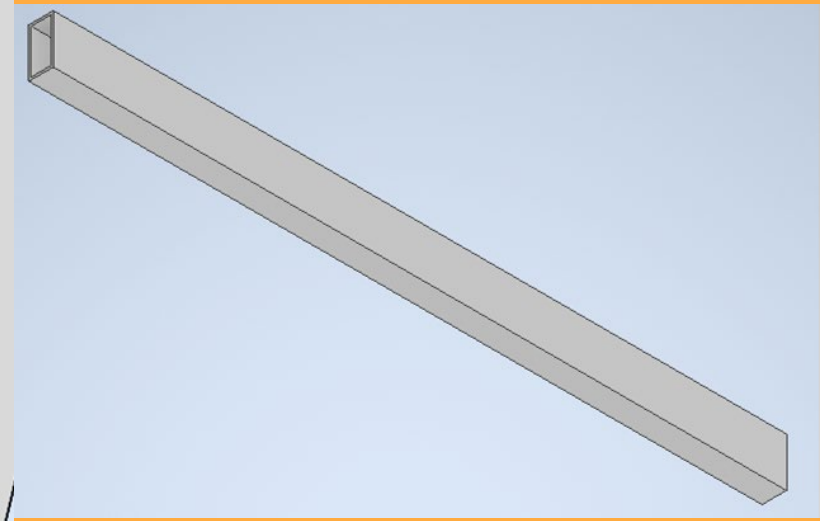
I first researched online for similar ideas to see if there were any similar ideas out there already on the market. I didn't find any that matched my concept online

I also spoke to parlour manufacturers at the Lamma show for inputs on the concept. I also talked to farmers in my area that said they liked the idea of having some form of automatic washer in the parlour saving them using the volume washer after each row of cows.

I also researched water systems like pumps and volume washers to see how much water pressure and flow rates I would need for the length of pipe I would be using.

Initial sketches





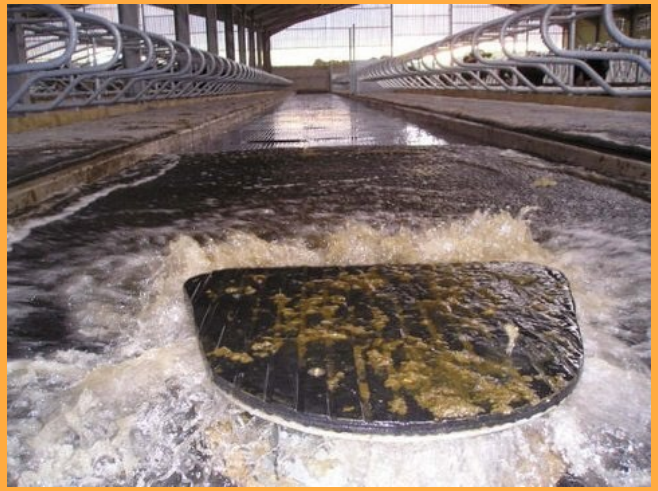
Similar products on the market

I haven't found any direct copies of the concept I have chosen.

There are similar products out there like,

Automated yard cleaning system

and flush systems



Equipment needed and skills

Angle grinders

Mig welder

Pillar drill

Chop saw

Materials

Metal box 100mm x 50mm x 4mm Mild Steel Box

Nozzles-duckbill wide spread x4

Bsp 1/2 “ nuts x 4

1” bsp nut

Male 1” bsp geka fitting

RA

Person Undertaken the Risk Assessment William heath Date Undertaken 04/06/2025

Hazard	Person(s) at Risk	Existing Controls	Risk Rating (see matrix)	HighMed Low	Any additional control measures required.
Slip, trip and fall	Myself and other student working on their projects	Make sure the workshop is clean and tidy, well lit. All parts are placed on the bench and absorbent granules, suitable footwear to be worn	2x2=4	Low	Keep an eye on the condition of the workshop.
Crush or Knock	Myself and other students working on their projects	Stand well back when the tractor is brought into the workshop,	2x2=4	Low	
Cuts and splinters	Myself and other students working on their projects	Wear gloves when handling the sharp objects and grind any burrs off	2x2=4	Low	Check for any sharp points of metal
Chemical poisoning	Myself and other students working on the projects	Refer to data sheet on cleaning solvents also refer to COSHH data sheet for rust inhibitor also for grease, wear correct PPE such as dust mask and gloves	2x2=4	Low	Keep data sheets up to date
High Pressure	Myself and other students working on their projects	Wear correct PPE and stand back incase of a hydraulic burst	2x2=4	Low	
Lifting and straining	Myself and other students working on their projects	Use correct manual handling techniques do not lift anything over 20kg if over it would require correct lifting aids	2x2=4	Low	Make sure lifting straps are in date and not damage in any way
Eye Damage	Myself and others working on their projects	Make sure eye protection is worn and ensure everyone is stood back when someone is grinding or welding	2x2=4	Low	

Photos of manufacture

Video of product

Improvements

Closes placement of the nozzles so they cover the gaps

Better steel like stainless steel or galvanised

Make a convoy system so it goes up and down the walkway

Have it mounted on the kick bar so its out the way

Can also be used on different applications like anything that needs large bodies of water to clean it down

Maintenance

Replace any broken nozzles or connections

Costing of Project-volume auto washer.
cost of Parts and hours carried out

Items and hours	Pricing
Metal box 100mm x 50mm x 4mm Mild Steel Box length 150cm	£36
Nozzles-duckbill wide spread x4	£16
Bsp 1/2 “ nuts x 4	£5
1” bsp nut	£6
Male 1” bsp geka fitting	£6
Hours worked; 2.30 £18/hr	£45
Total	£115
Sell factor x 1.74	£200 (+ parlor modifications like rails and conveyors)

Protecting the project

If this goes well I will put a trademark and get it patented so I can potentially sell the idea and receive any royalties or sell the hole idea to a manufacture

Future costings

Buy product in bulk for

cheaper price

Fewer purchase need

Better operational efficiency

Many thanks

To Rhys, Julian, Geraint and Jordan for the help and support with the manufacturing of the project. Also a thanks to my classmates that helped me as well.

Thank you for listening

Any questions