



Summarise your idea using our 'fill in the blanks' template below and a visual which reflects your project.



MY INNOVATION IS CALLED The Waste Not Rot-pot

MY NAME / TEAM NAME IS Stevie Shaw

I / WE GO TO SCHOOL AT Aquinas College

MY / OUR BIG IDEA IS To make seedling planter pots from a bi product that comes from pulp and paper mills. The bi product normally goes into landfill.

AND IT HELPS Use a factory bi product, reduce plastic pot waste, and encourages people to grow their own vegetables = healthier lifestyle.

BY SOLVING THE PROBLEM OF Huge quantities of waste going into landfill coming from a paper and cardboard bi product. The waste also comes from the pots that nurseries plant their seedlings in.

THE PROBLEM

Communicate the problem you are trying to solve, how big it is, who it affects and why it matters.

One of the problems I am trying solve is the waste and disposal of wood fibers coming from carboard and paper mill, whilst also reducing the use of plastic. I met with my grandfather who works with a board mill in Kawarau, and after a conversation with him I found out that over 20,000 tons of the paper and cardboard bi product is disposed of in the landfills each year. Not only is this an environmental problem, but the paper and cardboard company's have to pay large fees such as transport and dumping fees. This means that they are glad to give it to me. The other problem is all of the single use black plastic planter pots that are so hard to dispose of. I know from personal experience how annoying the plastic seedling pots can be. A few weeks ago I was helping mum plant some herbs and when I was removing the herbs from the pot I couldn't squeeze them out, and when I finally got the plant out, all of the roots had fallen apart which was very frustrating. Then later when I was trying to dispose of the pot, I tried to squish it to put it in the bin but it smashed into shards creating a mess of small plastic pieces. When I finally cleaned up the plastic, it went on to a landfill. When too much garbage ends up in landfill it takes up lots of space which could be used for other purposes such as housing space. The rubbish in landfills also releases greenhouse gases into the atmosphere which is the cause of global warming. Waste Not Rot-Pots are made out of the mill fiber and can be planted straight into the ground preventing all of these problems.



PROBLEMS



SOLUTION!

YOUR RESEARCH

Communicate who your innovation is for, what they need, who you spoke to when carrying out your research and what technology or science you might use to make your innovation work.

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My innovation is for garden centers, and the people who buy their products. Gardening centers need a solution to the growing demands of people wanting to reduce plastic waste.

When researching the material I also was researching the type of organic fertilizer I could put in the pot....

SHEEP MANURE

Sheep manure, like other animal manures, is a natural slow-release fertilizer. Nutrients in sheep manure fertilizer provide adequate nourishment for a garden. It is high in both phosphorus and potassium, essential elements for optimal plant growth. These nutrients help plants to establish strong roots, defend against pests and grow into vibrant and productive plants.

<https://www.gardeningknowhow.com/composting/manures/composting-sheep-manure.htm>

FACT:
14% of all global wood harvest is used to make paper. A lot of this wood is then wasted and becomes a bi product.

Machinery at pulp & paper mill



IMPORTANT!
Ingredients to Waste Not Rot-Pots.

This is the paper sludge/fiber which I have collected as the main material for my pots. The other three components are guar gum, sheep manure, and water.

I met with my grandfather when carrying out my research as he is experienced with these sorts of projects. He is the person who got me access to the paper/cardboard fiber through his business.

YOUR INNOVATION

Explain your final idea, how it works and how it solves a problem.



The Waste Not Rot-pot is a great replacement for plastic pots because it is sustainable in many ways. The pots compost in the ground when planted, fertilizing the plant in the process. The Waste Not Rot-pots could also drastically reduce the amount of waste going into landfill. The waste coming from 20,000 tons of un-used mill fibers each year in NZ, and the plastic pots that the gardening centers plant their seedlings in. They are also sustainable for people, especially those struggling financially as it is hard for them to buy good quality healthy food so they usually end up buying junk. But Waste Not Rot-pots will encourage society to plant their own vegetables. People will be encouraged because the pots are better for the environment in many ways, and they save them having to dispose of the regular plastic pot which can be difficult to dispose of. Overall these compostable pots are better for the environment many ways and give New Zealand society a more sustainable, healthy choice.

There is a market for these pots already.

My mum works in packaging and a large herb company have asked her to source a more sustainable option for their plastic pots. She told them about my project and they said that they would buy my product.

Nurseries will continue to grow the seedlings in large reusable containers.

The consumer will use the Waste Not Rot-pot to take their plant seedlings home. When they get home they can plant the seedlings directly into the ground.