



# Problem Card 13

## Grain Research



The  
INVERGOWRIE  
Foundation

Why are plants so important to us?  
To other living things?  
Could we live without them? Why/why not?

You are probably aware that much of the food we eat is made up of plants. We use different parts of plants to create many different food types. Technology is used to enable our farmers to grow good quality plants, and ensure that any threats to their crops and farms are managed well and overcome.



### DID YOU KNOW ...

In the Wimmera Mallee region of Victoria the food crops are rain fed. These crops rely on natural rainfall to nourish the soil to survive. The timing of the rain is very important but so are a number of other factors as well, like the temperature and the intensity of the sun. The goal is to increase yield (harvestable seeds).



## PROBLEM:

### Climate change and disease

The success food crops including chickpeas, lentils, wheat and barley, are being effected by various factors. These include climate change and disease.

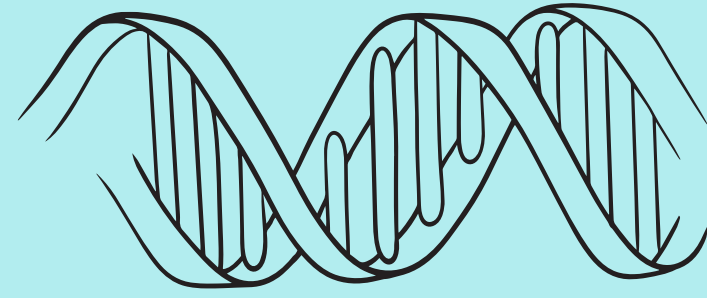
This is important because the growing of large scale crops for food production is big business with over 3 billion dollars made from the industry each year.





## Developing climate ready seeds

Scientists work on trials to cross pollinate strains of plants and select the strongest that survive to produce the most seed. They help the process of natural selection through investigations and DNA (Deoxiribonucleic Acid) analysis.



## Explore and Innovate

1. Explain how science helps grow great crops?
2. What new technologies help our food industries?
3. Is plant based meat a solution to climate change?
4. Can tests and trials can inspire new innovation in plant selection technologies?
5. Will there be an increase in the need for grains in the future?
6. Explore and compare the dietary requirements of a child, teenager, and adult. What are some of the differences?
7. Do you think the average Australian gets all of their requirements fulfilled through their diet? Explain, why or why not? What happens if you do not? What happens when you have too much?
8. Investigate and explore alternative sources of protein by taking a look at products available to buy at your local supermarket/butcher. Can you come up with your own recipe?

## Industry Challenges

Australia plays a large role in the global supply of grain, trading world wide. To maintain this supply, agriculture scientists conduct important research into genetics of different grain crops.

How do we continue to supply enough food despite these challenges?

What is it that our farmers need to be able to combat these challenges?

