Achievement Standard 91929: Demonstrate understanding of factors that influence the purpose and location of primary production

A description of the purpose of sheep production

The purpose of a farmer producing Lamb in Canterbury is for an economic purpose of making money for the farmer. The farmer wants to make money so he and his family can survive and so he can put more resources back into the business so he can make more profit. The farmer sells the lambs to the freezing works who processes them and sells the meat to large retailers overseas like Walmart in the United States.

A description of different factors that affect sheep production in Canterbury

3 factors that would affect canterbury is Rainfall, topography and access to markets (ports and works).
Canterbury gets an annual rainfall of 400-1200 millimetres of rainfall per year. This has an impact on pasture growth and food for the animal. Farm types like sheep don't need as much rainfall for high pasture growth because sheep are hearty animals (can survive on less quality feeds and still be in a good condition to sell/make money) and the farmer won't have to irrigate/ put costs towards pasture growth.
Canterbury has topography of plains/ hill country. The closer the farm is to the coast the more flat it is/ the further the farm is to the west the more hilly it will be. Flat land will allow for machinery to easily work the land therefore increasing the quality of nutrients in the soil or pasture growth so it will allow for more intensive systems that rely on good soils/ pasture to be able to be farmed there. If the topography is more hilly it will be harder to get machinery on it/ cost less and may not be worth it for what is produced. This will limit what can be farmed there. On hills generally sheep, beef, deer and some dairy depending on the size of the hill can be farmed there.
Christchurch is in the middle on the coast of Canterbury. It has an air and seaport in it. This will allow easier access for farmers to the port and will improve the quality of the product and lessen the expenses of transportation.

An explanation of how factors affect sheep production in Canterbury

Rain has an impact on the production of sheep in Canterbury because if there is not adequate amount of rain for pasture growth then there will not be enough feed for the animal to grow and increase their body condition score. This impacts how much money the farmer will make. Sheep are hearty animals and don't need a lot of feed. Canterbury is a dryland because it only gets 400-1200mm of annual rainfall per year. This affects the production of sheep because although they can grow and live on dryland pasture/grass species like cocksfoot they won't be of a high premium quality like an irrigated pasture fed sheep will be. This will impact the bread of sheep the farmer will farm because different breeds are suited to grow and survive/thrive on land with lower amounts of rainfall. Low rainfall will also affect how much feed there will be so the stocking rates may be lower. This will affect how

intensive the farm is and how many workers the farm may need therefore effecting the success of production.

Topography affects the production of sheep by how hard they have to work for their food. If the land is on a steep incline than the sheep will have to work harder for their food therefore putting more energy into finding food and less into growing quality meat. If the quality and quantity of meat is not high than the farmer will be making a lower amount of money. If the land is steep or quite hilly it will impact if the farmer can work the land. If they can't get machinery on the land than they can't work it/ put nutrients in the soil, improve soil quality or irrigate it. There may be less nutrients for the sheep to eat/ get. Therefore if they have less nutrients in their body they may be more prone to diseases which would decline their body condition score. The farmer would get less money for it and would therefore decrease the productivity of the land.

Access to markets/ports or processing places affects why we grow sheep in canterbury because if the markets are far away it will cost more to transport them to the works. There also might be more chances of suffocation or bruising which would cause meat quality to decline because of the sheep travelling so far and being in a confined space for so long. Unnecessary transportation costs would also be less economical for the farmer. There would be less profit because funds are being put towards excess transportation where they could be put into other more beneficial places on the farm.

<u>The factor that has the largest effect on the purpose of the production of sheep in Canterbury is Rainfall.</u>

<u>An evaluation of the selected factor with other factors that influence the production of sheep in Canterbury by comparing and contrasting.</u>

Rainfall has the largest effect on farming sheep in canterbury to make money. Canterbury has wet winters and dry summers although not a lot of rainfall occurs in an annual year. Canterbury gets an annual rainfall of 400-1200 mms per year. The positive of this rainfall is that it can improve the quantity and quality of pasture because it is allowing the plants to go through its processes like photosynthesis more often. This means that the plants can grow and become better feed sources for the sheep. If the sheep get more feed that means their body condition score will increase meaning their carcass/meat should be at a good quality therefore making the farmer more money. This has a bigger effect on sheep farming than topography does. Topography has a smaller effect on sheep production than rainfall has because the positives of it does not affect sheep farming as much. Topography can create shelter for sheep in steep gullies in bad weather. This prevents the sheep from getting uncomfortable, meaning that they will remain comfortable in their environment. Sheep do not decline in health if they uncomfortable temporarily from weather so shelter from bad weather is not a major priority unlike when looking at rainfall and grass growth. Another positive of hill country is that other animals (unlike sheep) cannot be sufficiently farmed on the slope of topography of the hill country in Canterbury. Dairy, crops, market gardens or other farming types where machinery or good quality pasture is required cannot be farmed on hills. The expenses and resources required for those farm types to run are too large for the gain/income they will get from it. So, the topography favours sheep more than other

intensive farming types. This influences sheep production because more land can be specifically farmed for sheep therefore increasing the farmers income.
The positives of rainfall compared to topography has a bigger impact on sheep farming because the amount and quality of feed is crucial for sheep growth whereas sheep being comfortable and land availability is not as crucial for sheep production.

The negatives of Rainfall have a bigger impact on sheep production in Canterbury hill country than what topography has. If there is too little rainfall than a drought may occur resulting in less and lower quality feed. This may occur during summer if there is not sufficient rainfall during the winter in Canterbury. If there is not enough feed during the summer than stocking rates may decrease and the body condition score of the sheep may also decrease therefore decreasing the farmers income. If there is to much rain in winter or any time of year pugging may occur in a block that has a high amount of stock in it for it's size. This will decrease the plant growth therefore impacting the feed for sheep. There may be less feed for sheep because of this the quality of the animals body condition score may decrease. Therefore leading to less income for the farmer. Another negative of too much rainfall is increased bacteria growth. When it is wet the ground gets soft and the sheep's feet will get softer and more prone to diseases. Foot rot can be a result of this and will make the animal less productive and will cost more resources for the farmer. Less productive animals means they won't eat as much and will impact the farmers economic viability of the farm by decreasing it.
These negative factors of rainfall have a bigger impact on the farms production than the negative effects of topography has.
The negative effects topography has is that animals have to work harder to get their feed. If the country is on a steep incline than the sheep will have to use more of their energy getting their food rather than using that energy growing. This limits the farmer by selecting different breeds of sheep to farm but does not limit the farmer, farming sheep. They can still farm sheep on steep hills. Another negative of topographic hill country is that you can't irrigate and use machinery on there. This impacts the farmer by not being able to increase the soil and pasture quality. Sheep can still grow on low quality pastures so the farmer not being able to work the land does not have a big impact. There will still be feed on the hill and the sheep can still get nutrients.
The negatives of rainfall have a bigger on sheep production than topography does. In justification, rainfall effects soil quality, grass growth and diseases in sheep. These all have significant negative impacts on the farmers purpose of production. If there is no feed or a high rate of bacteria infections in his mob than he will not make a lot of money and therefore may not be able to farm sheep effectively in Canterbury hill country. Topography effects how hard the sheep have to work for their feed and if the farmer can get machinery on the land. The farmer can still farm sheep although it might not be as effective as it can be but it will not have a major impact on his decision to farm in Canterbury hill country.

In Justification rainfall has a bigger effect on sheep production than both topography and access to ports/ processors. The positive and negatives listed above for rainfall will impact a farmers decision on farming sheep on canterbury hill country for money. Topography and access to ports and processors will not have an as big effect on sheep production.