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i. Research is needed when developing agricultural technologies as the idea has to be tested ~~is~~ and researched ~~at~~ whether or not it is needed. Researchers first develop a prototype which is then tested in agricultural situations. If needed changes are made, then more prototypes are made and ~~and~~ can be sent to a range of farmers in different areas to be tested. These are then taken in and any problems fixed and the farmers opinion is recorded. The product can be then produced, if the researchers think it is a worthwhile technology and presented through field day trials and a range of marketing techniques.

ii. Newly developed agricultural technology may not be widely adopted as farmers may not hear about it. New technologies need to be advertised in ~~the~~ local newspapers e.g. The Land, regional television and Radio stations

and through word of mouth sales.
If the farmer does hear about
this new technology farmers may still
be sceptical about the advantages
or reliability of this technology
which is why ~~then~~ researchers must
~~then~~ test their products and promote
them at field days, and to the farmers.

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b. There has been much advancement in computer technologies and this has led to advancements in agricultural production. One advancement is the National Livestock Identification System (NLIS) in cattle. This involves an ~~electronic~~ electronic ear tag put in the ear of cattle so they can be tracked. Each property with one or more head of horses, cattle, sheep, goats or 100 or more chickens is issued with a property identification number and every animal on that property must have a NLIS tag identifying it to that property. This allows us to trace back disease or problems with an animal or carcass back to the property it came from. It can allow us to isolate disease to certain properties, helping control the spread of it.

Another advancement is Global Positioning Systems (GPS). GPS allows us to precisely grow crops. This allows farmers to use tram tracks,

where the tractor drives in the same tracks every year, minimising soil compaction. The farmer can also program the system to remember where disease is in a paddock, swamps, rocks and trees so he can avoid them when sowing next year. GPS can also be used in tracking stock, so we can record their movement and learn more about their nature.

Another more recent development is the production of the robotic milking dairy. This system is fully automated meaning there is less stress on the dairy farmer and is able to live a better life style. This product is also economically an advantage as the farmer can save money on labour as there isn't any needed in this system. This system allows the farmer to spend less time on milking that he can spend with his family or sleeping. This also means the farmer can also spend more time improving pastures

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~~fixed~~ fences and cattle on the property. It also means the farmer can take holidays as the system can automatically notify him if there is a problem with the system. This system can also advantage the cattle as ~~if~~ it is a voluntary milking system so the cattle choose when they want to be milked, but the computer can recognise if a cow is coming in too much and knock her back, or hasn't come in, which then will notify the farmer.

All these products have ~~a~~ benefits to agricultural production, whether it is being able to track ~~an~~ an animal back to the property it came from, being able to precisely plant crops, able to track cattle or robotically milk cattle.

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