

# Impacts of Agriculture

Agriculture is the art and science of cultivating land and raising animals for the purpose of producing food, fibre, and other products for human consumption. It has become an essential part of human survival, as it provides us with the things we need to survive. However, agriculture can also have a negative impact on the environment:



## Climate change

Climate change is a change in the global climate caused by a rise in greenhouse gas emissions in the atmosphere. In 2020, agriculture was responsible for 13% of Australia's greenhouse gas emissions.

## Land clearing

The removal and/or destruction of vegetation from the land, often native vegetation. This may be done using a bulldozer or even by having two bulldozers connected with a chain that drags the chain through the landscape. This contributes to biodiversity loss and the ability of soils to retain water.

## Pesticide and insecticide use

Pesticides are chemicals that are sprayed onto plants (sometimes from low-flying planes) to keep pests off of crops. Insecticides are pesticides that are directly targeted at insect pests. However, pesticides can't always be targeted at specific pests and can harm native animals or insects as they are sprayed. These chemicals can also blow or get washed into surrounding native vegetation and waterways, causing harm to native species.

## Chemical fertilisers

All healthy soils contain nutrients that are cycled through the soil by soil organisms and plants. These nutrients help plants to be healthy and strong. However, when soil is used intensively for growing crops, these nutrients can be depleted. Chemical fertilisers can be used to help improve the health of the soil, helping plants to grow quickly and more strongly. These can be sprayed onto the plants or the soil. They can reduce the quality of the soil by harming the organisms that live there and their ability to naturally create and cycle nutrients through the soil.



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## Water pollution

Water pollution from agriculture occurs when chemicals get into waterways after being washed or blown off of farms. These end up in rivers and even the ocean, causing harm to natural river or marine ecosystems. Sometimes it's not even chemicals; it can also be too much animal poo from animals that aren't native to an area (like cows or pigs in Australia). This poo can choke the natural environment, even when it is diluted.



## Soil degradation

Soil is one of the most important elements in successfully growing crops (both the crops that we eat and the crops that the animals that we source food from eat). Healthy soils are also an important part of healthy natural ecosystems. Soil degradation happens when there is a decline in the health of the soil. This can mean the soil has fewer organisms living in it that help keep the soil healthy and keep the nutrients moving through the soil or that the soil is compacted and unable to retain water.

## Soil erosion

The topsoil is where all the best nutrients for growing healthy plants can be found. When it is degraded, in poor health or not covered in plants, it is more susceptible to being eroded by being washed away in a flood or blown away by the wind (have you ever seen one of those dust storms? This is how these happen!). Losing valuable, nutrient-rich topsoil can mean farmers need to rely on chemicals to fertilise and enrich their soils for plant growth.

## Soil salinity

This is caused when there is an imbalance in water being able to move through the soil, which causes the natural water table to rise up and bring salt with it. This salt then meets the topsoil, where the plants grow best, but with the salt there, the plants are unable to grow. This is often caused by land clearing.

## Water for the environment

Farms use a lot of this for their plants and animals, which means there's not so much left for the environment. This is compounded when there are extreme weather events like droughts, and farmers need more of this stuff for their animals and crops, which leaves even less for nature.

