Evan Fewell
Tuskegee University
Tuskegee, AL USA
Australia/ Sustainable Agriculture

Sustainable Agriculture

Chemical industries spend considerable time and resources “controlling” agriculture with pesticides to increase production and productivity. Unfortunately, this harms the food we eat. While I understand agriculture control, I believe there is a lot more we can learn that would teach us what animals seem to do naturally and how to co-exist without forcing any one species into extinction, like the Tasmanian tiger, Eastern hare-wallaby, and many more. Sometimes, innovation replaces the natural good of species, like in Australia, where they face deforestation and climate change. Likewise, humans often disagree on what is critical to survival. Animals are unique in their interactions, and if we could blend the impact of human interaction with people with what animals teach us in their natural environment, both humans and animals will have a more sustained and high quality of life.

I have traveled internationally, visited many U.S. states, and found the numerous animals fascinating. We often dismiss the world around us, although it affects not only the survival of humanity physically but also in economics and beyond. Animals also have much information to share in the ability to survive and maintain balance in ecosystems and environments. There are also numerous challenges that animals can impose on people, but it is through research and knowledge that we can learn effectively how to manage such things. To explore animals’ effect on humans in the sciences, I have chosen to specifically focus on the country of Australia through the topic of sustainable agriculture.

Animals build ecosystems through pollination and creating growth in nature.
Such as the butterfly and other nutrient-spreading animals can spread seeds through pollination. Additionally, squirrels and similar animals spread nuts and seeds that help to grow plants. This growth cycle feeds the earth, causing the population to develop more trees and living organisms. Animals can also protect crops. For example, the ladybug will feed on aphids that destroy plants. (RSPB.org)
Additionally, spiders help eat insects that destroy crops. Lastly, snakes will eat rodents that destroy crops. This destruction caused by these animals could cause entire crops to be lost. However, the natural design of how animals build and protect ecosystems is essential to their survival.

Industries spend much time “controlling” animals and bugs for the sake of agriculture for increased crop production to feed a growing population. According to Australia’s National Science Agency, “Pest plants and animals cost Australia $25 billion annually”. While the importance of animal control is understood and impacts both positively and negatively, there is a lot more we can learn that would teach us what

animals seem to do naturally. As humans, we can embrace it for our edification. They seem to be born knowing every creature has its role, so they learn to co-exist without forcing any species into extinction. Sometimes, innovation replaces the natural good of species. If we could blend what industries have done for people with what animals teach us in their natural environment, humans and animals would have a more sustained and high quality of life.

This is a unique perspective on the impact of animals through focusing on human behavior that can impact resources. Through this exploration of research, we will take a closer look at … and break down the information about the animals that are affecting advancements in medical treatments, food safety, and rare experiments that are being tested on animals that can one day help human survival. Animals destroy ecosystems by eradicating their existence through toxins or other effects that cause nature to cease in existence. Locusts can tear through an environment by leaving an area without sustainable life. Invasive animals are primarily responsible for destruction in areas, not their natural habitat. While many invasive species are placed in a habitat from people, once in a foreign territory, there is a chance for invasion because of the lack of natural predators. Parasites such as mosquitoes carry diseases that can harm an ecosystem and, if not treated, cause its destruction.

Similar to animals, humans play a part in building and destroying ecosystems. Like locusts, humans tend to destroy ecosystems by overusing land where no more natural resources are available. Chemicals, buildings, and overhunting animals and insects create a severe negative impact on our ecosystem and animals that positively impact nature. Likewise, humans play a part in protecting our ecosystem by innovating new ways to conserve and protect our environment. Many humans are advocates for using less fossil fuel, preserving land, and protecting animals. Innovations in science through a closer look at the lessons animals teach us on co-existence are essential to how we interact.

Australia is considered a Constitutional monarchy, with King Charles III serving as their king. A constitutional monarchy is a government system where a leader shares power with a constitutionally organized government. However, the monarch is typically a ceremonial leader, and the constitution delegates the power to the branches of government to act. Australia has been an intriguing country for those interested in natural resources because of its vast land, expanded representation of animals, and advances in agriculture. Understanding the details of the country can help to understand the country's needs as well. With a population of 25.69 million in 2021, over 86% of the urban country is covered with over 55% of cultivated land. Australia has significant crops across all fields of agriculture. Some of its top crops are broadacre crops, including wheat and sugar cane; horticultural crops, including grapes and potatoes; and Livestock, including beef and sheep. (Australian Bureau of Statistics, 2022). The average farm size in Australia is 4.66 thousand hectares, and there are 369 million hectares of agricultural land. Additionally, the climate and geography in Australia are some of the most unique in the world. The central and western plateau tends to have a

hot desert climate, the east and southeast coasts an oceanic climate, the northern coast a monsoon climate, the southwest coast a warm Mediterranean climate, and the areas in between a hot semi-arid climate.

One of the most expensive countries to live in, Australia is known for its people's laid-back attitude. Their diet consists of plenty of vegetables, fruit, grains, lean meat, other protein, and low-fat dairy, most of which comes directly from Australian farmers. In an average household in Australia, the general wage is a salary of $68,900 and an hourly rate of $35.30 per hour. Families have access to affordable education and healthcare. Medicare provides healthcare for Australian residents for free or at a reduced cost. It is paid for out of taxes that every Australian pays. Also, families generally have access to clean water, toilets, electricity, telephones, roads, and local markets. Nevertheless, there are some significant barriers that typical Australian families face, including lower education levels, single-parent household compositions, unemployment, social isolation, and lack of sustainable food.

This research paper delves into sustainable agriculture, specifically the best practices to grow food and fiber for long-term environmental, economic, and social success. Animal agriculture is the primary driver of deforestation in Australia. Trends are worsening because they are using non-renewable, polluting resources to produce food, degrading land and water systems. More than 2.5 million Australians live in poverty, with many unable to access enough healthy food. The crisis is that Australia is expanding too much farmland for farm animals, contributing to deforestation and climate change. (Harvey, C. 2022). In 2019-2020, a wildfire destroyed over 65,000 acres of land because they did not know how to take care of agriculture properly. Expanding the land is causing climate change because it is destroying forests without trees… Forrest helps to regulate carbon dioxide and other greenhouse gasses in the area, and cutting down forests affects that natural necessity.

With future wildfires expected to see ferocity equal to the 2019-2020 fire season, forest managers are questioning traditional tree restoration approaches, with some even wondering if regrowing forests is viable. Researchers are actively testing more interventionist approaches, such as replanting seeds and seedlings with genetically fire-resilient traits. (Dungey, G. 2022) Three solutions that can address these issues are conservation, diversifying agriculture, and optional habitats. Currently being done in the United States of America, establishing laws such as the Endangered Species Act, the Wilderness Act, the Lacey Act, and the Roadless Rule help protect our forests and stop illegal wood products from entering the U.S. Marketplace. Similarly, I believe that Australian leadership in nature conservation is essential to us all; Australia is one of the world's most biologically diverse countries, home to some of the most fascinating species and exceptional natural places.

Animals can build or destroy entire ecosystems, and humans are an integral part of preserving the world, yet humans have a lot to learn, and animals can help them. Similar to animals, humans play a part in building and destroying ecosystems. I initially suggested that Australia use other animals and fana to handle agricultural pests. However, I quickly realized that it is a big mistake to do this without regulation because

that is precisely how animals like the Cane Toad become invasive. As such, I am suggesting a different approach to regulating the locust challenge. As it is known for agricultural purposes, introducing a new species or increasing the numer of already existing species to an environment could be helpful in regulating this challenge. My suggestion would be to increase the local lizard, snake, and bird population to help to regulate the locust challenge. This is essential because they will be self- regulating to increase all of these animals versus only one. Lizards eat locusts; birds eat lizards and locus;t and snakes eat birds and lizards therefore increasing the representation of these already native animals will help to provide a more comprehensive regulation system that will also have a chain affect so that no one species in advertantly becomes overpopulated as a result.

Resources

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