

*Should the USDA approve or restrict the commercial production of the genetically engineered eucalyptus tree? Why? Provide as many reasons as possible to justify the choice you made.*

**Sample essay 1**

1. With reference to Article 1, the USDA should restrict the commercial production of the genetically engineered eucalyptus tree due to the following reasons.

Firstly, from the environmental aspect, planting the GM-eucalyptus tree would cause the loss of biodiversity. As mentioned by the article, the GM-tree is kind of non-native species to the ecosystem of the US. When we try to plant this species onto the land in US, we may need to eradicate some pre-existing native plant on the land to provide growing space for the newly introduced plantations. Besides, planting invasive species would lead to a series of problems. For example, as the non-native species are less likely to face intraspecific competition in the local, they can easily reproduce in a great extent with a lower selective pressure. (Watson, 2017) These points contribute to the loss of local species as the local species may not easily adapt to the newly established ecosystem with lots of non-local species. For example, some local animals may not find a good shelter under this case. Such an invasion may cause some local species to extinct, leading to a loss of biodiversity.

Secondly, from the social aspect, approving the commercial production of GM-eucalyptus tree may result in an intense controversy in the society. According to the provided article, among the million individual comments from the project done by the environmental group, only three comments are in favor of approval. This prove that many citizens are not really supporting the plantation plan. What's more, from the article, the planted fast-growing GM-trees will be used to assist the production activities of the forestry in the US. This may lead to some public opinion saying that the USDA sacrifice natural environment for economic interests. This may cause the disruption to social stability. For example, some may raise concerns about the giving rise of higher hill fire risk by the GM-trees. (World Rainforest Movement and Campaign to STOP GE Trees, 2015)

Some may say, the project would help to relieve the huge demand of timber in the wood product market. (Fortin & Berg, 2017) Facing the serious supply constraint for timber in the current market, the project may greatly provide raw materials for the production in the industry, reducing the inflation problem among the timber market as the GM-eucalyptus tree is fast growing. This point is admittedly true. However, the environmental impact created by the project is non-reversible. We can bargain for a better economy by different ways at any time, but it is impossible for us to repair the destroyed ecosystem. Even more, once the industry relies on the fast-growing GM-tree for production, it is difficult for them to get rid of it as the pace of growing the traditional trees for production is much slower than that of the GM-trees. Over time, the majority of plantation in the US will become the non-native GM-trees. This vicious cycle may lead to the extinction of some local species as more and more of them are losing their habitat or not adapting to the altered ecosystem.

## Sample essay 2

Article 1 reports about genetically engineered (GE) eucalyptus tree and whether United States Department of Agriculture (USDA) should approve or restrict GE eucalyptus trees. ArbonGen, a biotechnology firm, claims GE eucalyptus tree has little impact on wildlife and benefit the U.S in various ways, while the environmentalists list negative consequences of GE eucalyptus trees. Although both sides seem to have a good argument, I believe USDA should restrict commercial production of GE eucalyptus tree.

First, the claims made by ArbonGen are not trustworthy. According to ArbonGen, “the genetically engineered trees could help feed global demand for biomass energy”. However, numerous scientists suggest biomass energy “would in fact promote deforestation ... make climate change worse”. This flaw in ArbonGen’s argument suggests the tests conducted by ArbonGen are biased and ignorant of the environment. Due to such deceptive statement, the other arguments by the company seem to lose credibility. For example, ArbonGen claims the GE eucalyptus trees are capable of withstanding winters of the U.S. The fact that eucalyptus trees, which originate in warm climates, are modified to survive in winter is also questionable because ArbonGen may not have done a proper research on this matter.

Furthermore, the argument about increased export seems like honeyed words just to convince USDA so that the company can generate more revenue. ArbonGen suggests GE eucalyptus trees could be highly beneficial to the U.S economy as it would “expand U.S exports of wood pellets”. This statement may sound appealing to the USDA, but the negative consequences seem to outweigh the economic benefits of GE eucalyptus tree. According to environmentalists, eucalyptus trees have been “an invasive species in California since the mid -19th century”. This means the eucalyptus trees can potentially disrupt the eco-system in the U.S, affecting tourist and agriculture sector of the economy. In addition, if eucalyptus tree does dislocate the eco-system, the cost of restoring the environment could be substantial. Although ArbonGen claims engineered tree show “no evidence of natural spreading” during tests, this statement cannot be trusted until an impartial scientist verifies it. Hence, the risk factor is too high for USDA to approve GE eucalyptus tree.

To extend, the possible disaster that could be caused by eucalyptus tree cannot be ignored. For example, environmentalist claim eucalyptus trees are “water guzzlers”. This characteristic of eucalyptus tree could cause potentially intensify drought in dry regions, possibly affecting the water supply of major U.S cities. In addition, according to a forestry expert at Oregon State University, “eucalyptus trees produce highly flammable oil as well as high volume of leaf litter”. Together with drought and flammable oil, eucalyptus tree could significantly increase the risk of wildfires in some regions. Already in Portugal, 60 people were killed by a massive wildfire “exacerbated by the prevalence of eucalyptus trees”. Therefore, seeing that environmental and societal consequences greatly outweighs the economic benefit, the USDA should restrict commercial production of GE eucalyptus tree.

## Essay writing: Reflective task

### Sample 1

Criteria	Why is this criterion important to your evaluation?
1. Possibility	As it is very important to figure out whether a plan or idea is possible to fulfil or come true.
2. Visibility	As it is quite important to know whether the result of a certain idea is visible or not, otherwise it is not worthy to take the risk.
3. Expected outcome	As it is also important to know whether the expected outcome is good or not.



### Sample 2

Criteria	Why is this criterion important to your evaluation?
1. Creditability of the source	When filtering through which materials to read and use in my evaluation, I tend to put more emphasis on academic journals, research findings from prestigious universities (such as Stanford), articles from NGOs that target the specific socioeconomic issue I am researching on, and statistics from well-known organizations. This is important to my evaluation as the more credible the source, the lower chance that I will be misled on the facts. Thus, I can form a better-informed stance on the issue. Academic journals are typically written by professionals with expertise on the subject, after doing comprehensive primary and secondary research; studies conducted by prestigious universities also tend to be more credible as there are high stakes attached to the institute's name, and its prestige would be affected if the research was not done meticulously. As for NGOs and other organizations, I believe that the many years of experience will help them become well-informed on the matter, which increases their credibility as sources.
2. Accuracy of the information	Expanding on the first criterion, the major reasoning behind looking into the credibility of the sources is that I put a lot of focus on whether the information I obtain and am exposed to is accurate. As explained above, this is crucial because I, as an educated layperson, will not have professional knowledge on the scientific aspects or reasonings behind social issues, and my only method of finding out more is obtaining information through research. To ensure accuracy, I will also cross check statistics across articles and journals to make sure they are similar if not identical.
3. Whether the information is updated	Science is always evolving and new technologies are being developed every day. Something that may be the case one day, may be different the next. This is why I have limited my scope of research to the past 10 years only, because outdated information will not be conducive to evaluating the present situation.

