The environmental and health impacts of G.M.O

And their influence on food production and agriculture.

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**Academic English Skills Coursework 1: Source Evaluation and Essay Outline**

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| **Title:**  **The environmental and health impacts of G.M.O and their influence on Food production and Agriculture.** |

**Part 1: Sources**

**Write a reference list for at least of SIX sources which you have found to be reliable and appropriate for academic use, and are relevant to your essay title.**

*Qaim, M*., 2010. Benefits of genetically modified crops for the poor: household income, nutrition, and health. *New Biotechnology*, *27*(5), pp.552-557.

*Kuiper, H. A., Kleter, G. A., Noteborn, H. P. J. M. and Kok, E. J*. (2001), Assessment of the food safety issues related to genetically modified foods. The Plant Journal, 27: 503–528.

*Séralini, G.-E., Vendômois, J.S.D., Cellier, D., Sultan, C., Buiatti, M., Gallagher, L., Antoniou, M., Dronamraju, K.R.,* 2009. How Subchronic and Chronic Health Effects can be Neglected for GMOs, Pesticides or Chemicals. International Journal of Biological Sciences 438–443.

*Carvalho, F.P.,* 2006. Agriculture, pesticides, food security and food safety. Environmental Science & Policy 9, 685–692.

*Tscharntke, T., Clough, Y., Wanger, T.C., Jackson, L., Motzke, I., Perfecto, I., Vandermeer, J. and Whitbread, A.,* 2012. Global food security, biodiversity conservation and the future of agricultural intensification. *Biological conservation*, *151*(1), pp.53-59.

*Azadi, H., Ho, P.,* 2010. Genetically modified and organic crops in developing countries: A review of options for food security. Biotechnology Advances 28, 160–168.

**Part 2: Source Evaluation [Explanation of why you have selected the sources for use.]**

**Complete the table below for FOUR of the sources included in your Part 1 list.**

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| **EVALUATION 1**  **Reference: Reference:** *Kuiper, H. A., Kleter, G. A., Noteborn, H. P. J. M. and Kok, E. J.* (2001), Assessment of the food safety issues related to genetically modified foods. The Plant Journal, 27: 503–528. |
| **Why have you chosen this source? Refer to the currency, authority, purpose, reliability of evidence or data, objectivity, use of expected academic conventions.**  Currency: it was written 2001 and for this type of topic any changes will not affect how the topic is current   * The article been written in 2001 * Studies related to food and health aspects take long a quite long time to be done * Been cited tell this day by many academic industries   Authority:   * Kuiper, H. A. is a faculty in RIKILT- Institute of Food Safety, Wageningen University & Research Centre. * Kuiper, H. A. have written around 80 documents by his own self. * Done around 150 shared work with other academic faculties.   Purpose:   * This journal explains the difference between natural and genetic modified food. * It is provided with several toxicology researchers that help in supporting the argument. * It also introduces a valid knowledge which still being used up to this day.   Reliability of evidence:   * Most of the studies and figures in the journal been done by OECD since the year 1993. * Many medical, biological and agricultural facilities still use this book as reliable source. * the journal got published the SEB (society for experimental biology). * This journal uses cited reports by IFBC (the international food biotechnological council).   Objectivity   * This topic focus on consumed organic life. * It talks about more than one type of consumers. * Examples includes the animal studies that been done to check on the first expressed proteins.   Academic Conventions   * It was written in a clear and an organised way. * A well-studied journal with a balanced structure. * Well supported with clear evidences and graphs. |
| **How is the source relevant to your title? What are the useful points / arguments made in the text?**   * Introduced variant resources that specialise in food production such as IFBC. * Proposed a new decision tree at the FAO/WHO Expert Consultation on Allergenicity held in Rome in January 2001. * There is a general consistency in the national approach for the evaluation for the food safety of genetically modified plants([Mackenzie, 2000](http://onlinelibrary.wiley.com/doi/10.1046/j.1365-313X.2001.01119.x/full#b61)) |

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| **EVALUATION 2**  **Reference:** Carvalho, F.P., 2006. Agriculture, pesticides, food security and food safety. Environmental Science & Policy 9, 685–692. |
| **Why have you chosen this source? Refer to the currency, authority, purpose, reliability of evidence or data, objectivity, use of expected academic conventions.**  Currency: it was written 2006 and this topic talks about the environmental changes and how agricultural studies have found ways to avoid damaging the environment, and any change in the environment take more than a year to undo it.   * The article been written in 2006 which is around 12 years * It takes a long time to do any studies about the agricultural environment quite a while to be fully done * It been taught and studied to and by many of the high faculty in the agricultural field tell this day   Authority:   * Carvalho, Fernando P. works in the [Technical University of Lisbon](https://www.researchgate.net/institution/Technical_University_of_Lisbon) as a doctor in science. * Carvalho, Fernando P. have written around 115 documents by himself. * Been citied around 1800 time been recorded on his *scoop preview* profile.   Purpose:   * To be aware of using agrochemicals such as DDT, HCH and lindane. * Introduce the comparison between developed countries and developing countries in agricultural field. * The   Reliability of evidence:   * It is provided with several toxicology and many scientific researchers that explain the topic in detail. * This journal explains the importance of the agricultural environment on food growth. * It also introduces the environmental impacts around the world between 1945-2005 (agrochemical service).   Objectivity   * This topic focus on the environmental effects and any changes occurred between 1945-2005. * The difference in the agriculture methods between developed and developing countries, such as the uses of pesticides on crops and around the soil. * Production of biochemicals and pesticides in developed countries such as the European union before 2005.   Academic Conventions   * It was written in a clear and an organised way. * A well-studied journal with a balanced structure. * Well supported with clear evidences and graphs. |
| **How is the source relevant to your title? What are the useful points / arguments made in the text?**   * The estimation of the population and food production and it is health related effects up to the year 2050 by UN (United Nation). * The creation of a paradigm of genetically engineered food and organic chemical-free food and how it progresses economically and agriculturally tell the year 2020. * The risks and precautions of GMO chemicals on the consumers. |

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| **EVALUATION 3**  **Reference:** *Tscharntke, T., Clough, Y., Wanger, T.C., Jackson, L., Motzke, I., Perfecto, I., Vandermeer, J. and Whitbread*, A., 2012. Global food security, biodiversity conservation and the future of agricultural intensification. *Biological conservation*, *151*(1), pp.53-59. |
| **Why have you chosen this source? Refer to the currency, authority, purpose, reliability of evidence or data, objectivity, use of expected academic conventions.**  Currency: it was written 2012 and this topic talks about the environmental changes and how agricultural studies have found ways to avoid damaging the environment, and any change in the environment take more than a year to undo it.   * The article been written in 2012 which is quite recant compare to the previous evaluations * The publishing time is recent but the studies that been used are much older than the book   Authority:   * Tscharntke, T. is a professor of Agroecology at University of Göttingen. * Tscharntke, T. been the head of Agroecology at University of Göttingen, and a faculty member in agriculture and biology since 1993. * Journals by Tscharntke, T. still being published up tell this year, (2018Agriculture, Ecosystems and Environment   254, pp. 92-98).  Purpose:   * This journal introduces number of ideas that might improve the agriculture field * Proposes a few answers and evidence to support both side of the arguments * It presents the importance of biological control and how it helps   Reliability of evidence:   * It uses reliable sources such as FAO, OECD and World bank reports to support the evidences. * It divides the environmental impacts into land sparing and wildlife-friendly farming, which follow the EU (European Commission) plans for 2020. * Provides the reasons along with possible side effect such as the frequent use of pesticide could end up negatively on bees (Brittain and Potts, 2011).   Objectivity   * This topic focus on the ways to keep the control in the environment. * It cares about the diversity of it is information. * Present the information about different types of agricultural environments.   Academic Conventions   * It presents the information in an academic pattern list (introduction, conclusion and etc). * offers clear pathway to a balanced argument. * All sources are correctly cited and referred Harvard referencing style. |
| **How is the source relevant to your title? What are the useful points / arguments made in the text?**   * It presents the difference between friendly farming environment and a non-friendly environment and it is impacts on the crops and the surrounding living organisms. * Provide the percentage of food production compare to the percentage of food waste and possible steps to prevent any more hunger problems (UN Millennium Project, 2005; Sachs, 2005). * The application of different agrochemicals varies with the region (reproduced from Carvalho et al., 1997). |

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| **EVALUATION 4**  **Reference:** Qaim, M., 2010. Benefits of genetically modified crops for the poor: household income, nutrition, and health. New Biotechnology, 27(5), pp.552-557. |
| **Why have you chosen this source? Refer to the currency, authority, purpose, reliability of evidence or data, objectivity, use of expected academic conventions.**  Currency:   * The article been written in 2010. * The idea is about the improvement and how can GMO become a healthier solution. * Been Witten over 8 years ago.   Authority:   * Started as a food security researcher in Institute of Food Economics, University of Kiel 1996. * Continued his work in Germany Centre for Development Research (ZEF), University of Bonn (1997-2004). * And he is now a Professor of International Food Economics and Rural Development, Georg-August-University of Göttingen, since 2007.   Purpose:   * Proposing the potential impacts of modified food, such as decreasing poverty and harvest extra-nutritious crops. * Presenting the Nutrition and health benefits of genetically altered food, for example the Golden rice in Asia and how it helped in decreasing the VAD by 60%. * To provide a diversity in the technological methods that provide nutritionally enhanced crops.   Reliability of evidence:   * It used collections of research in ScienceDirect database to support it is argument. * Has cited many of trust worthy sources, such as World Bank (2007) and number of M. Qaim journal’s. * Cited around 30 writers and been cited by 50 recent articles. (ScienceDirect database)   Objectivity   * There various examples of modified organisms within the text such as Bt cotton and golden rice. * Has analysed general terms such as nutrition and GM crops. * Despite the bias toward GM crops the journal acknowledge the possible negative effects, by stating that “it is not the sliver magical bullet that would solve everything”   Academic Conventions   * The bibliography been referenced in Harvard referencing style. * Introduction explains article’s objectives clearly. * The journal is well structured and without any grammatical error. |
| **How is the source relevant to your title? What are the useful points / arguments made in the text?**   * Presents the benefits of GM crops and what is the possible improvement could be done in the future. * It present analysed example backed up with different generations of agriculture technology. * Focuses on the potential and positive side of GMO which is helpful to introduce different side of the argument. |

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| **EVALUATION 5**  **Reference:** *Séralini, G.-E., Vendômois, J.S.D., Cellier, D., Sultan, C., Buiatti, M., Gallagher, L., Antoniou, M., Dronamraju, K.R.,* 2009. How Subchronic and Chronic Health Effects can be Neglected for GMOs, Pesticides or Chemicals. International Journal of Biological Sciences 438–443. |
| **Why have you chosen this source? Refer to the currency, authority, purpose, reliability of evidence or data, objectivity, use of expected academic conventions.**  Currency:   * The journal been written 2009. * Over 9 years old, which is still a current in both medical and food production field. * The main idea is “health”.   **Authority**:   * Gilles-Éric Séralini is a high regard faculty in University of Montpellier II * Gilles-Éric Séralini from 1998 till 2007 was a member of the French Biomolecular Engineering Commission. * Has worked on 85 journals and been cited by 1610 document (Scopus author details).   **Purpose**:   * This journal explains the possibilities how GMO neglect chronic health effects can. * Propose an understanding that the difference between sex and non-liner signs of toxicity effect the production of GM food. * That professor Gilles-Éric Séralini experiments would remove any possible negative effect from GM food.   **Reliability of evidence**:   * All the resources are backed up by the US National Library of Medicine, National Institutes of Health and the NCBI (National Centre for Biotechnology Information) * the topic present evidence and figures have been observed by professor Gilles-Éric Séralini and NCBI faculty. * The Acknowledgments of professor François Roullier for his statistical studies by NCBI.   Objectivity   * To discuss the existing data on possible toxic effects of GMO on mammals. * Aiming toward commenting the current procedures and experimental protocols in mammalian feeding experiments. * To investigate the toxicological long-term effects.   **Academic Conventions**:   * It presents the research as a journal and structured on academic bases. * The abstract presents the idea clearly. * The conclusion structured clearly well structure using signposting and headings. |
| **How is the source relevant to your title? What are the useful points / arguments made in the text?**   * The possibility of creating GMO that increase the health of it is consumer. * That despite the possible side effect of genetically alteration, there is a way to clear the GM food of any possible toxics. * To prevent chronic diseases resulting by chemical intoxication. |

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| **EVALUATION 6**  **Reference:** *Azadi, H., Ho, P.,* 2010. Genetically modified and organic crops in developing countries: A review of options for food security. Biotechnology Advances 28, 160–168. |
| **Why have you chosen this source? Refer to the currency, authority, purpose, reliability of evidence or data, objectivity, use of expected academic conventions.**  Currency:   * This journal was written in 2010. * Which is around 8 years old. * This topic is about GMO crops in developing countries which is still count as current.   Authority:   * Azadi, H. holds a PhD in “sustainable rangeland management”. * Azadi, H. is as Senior researcher at both of Economics and Rural Development, Gembloux agro-bio Tech, University of Liège, Belgium and department of geography, Ghent University, Ghent, Belgium * Azadi, H. is a member of the Global Land Tool Network (GLTN), USAID Land Tenure and Property Rights Portal, Land Deal Politics Initiative (LDPI) and Land Portal.   Purpose:   * This journal introduces Biotechnology and it has been applied as one of the eco-techno-political technologies in the 21st century. * It provides the formation of new biotechnology firms is mostly a strategic response rather than based on a real appreciation of environmental threats. * To present both the advantages and disadvantages of GM crops such as  1. Main advantages high yield productions and greater drought resistance. 2. Main disadvantages less quality of foods and Possible creation of new allergy.   Reliability of evidence:   * This journal been approved by the Organic farming and the European Union * Professor Azadi, H. used his experience in biochemical, chemical, agricultural and environmental science toto cite and include his sources. * using evidence and figures from trusted experts such as (Organic Farming Research Foundation, 2006; Foodaware, 2002).   Objectivity   * This topic focus on different ways of producing food in developing countries. * It compares each of the GMO and OF both from same perspective of their capability of efficient food production. * It has observed both of GMO and OF yield production for around 4 years or more.   Academic Conventions   * It presents the objective of the article (food production in developing countries) in clear well-structured pattern. * offers clear pathway to a balanced argument between genetically altered food and organic food. * All sources are correctly cited and referred Harvard referencing style. |
| **How is the source relevant to your title? What are the useful points / arguments made in the text?**   * It focusses on the food production and possible ways to improves it, for example producing a safe GMO would cut the costs and increase the production. * It gives an answer on how food production is being solved, and it is due to the possibilities offered by GM technology in this new century. * Offer an understanding about OF high costs and low crops rate and the possible side effects and potential risks of GMO. |

**Part 3: Essay Outline**

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| **Title: The environmental and health impacts of G.M.O and their influence on Food production and Agriculture.** |
| **Introduction:** An abstract explaining genetic modified food what it is, and it is origin with brief intro about the public's thoughts toward the health and environmental impacts caused by genetic modified food  **Your position / thesis statement:**  Genetic modifying of food is in fact a helpful solution, genetic modified food crops grow faster, safer and does not lose notorious value due to weather change. Organic food is still valuable as well, but due to the current needs of population need of securing a healthy amount of food, followed by other disadvantages. |
| **Paragraph 1: Purpose**  **Topic sentence:** The modification of food or the organisms that been altered the through chemical techniques is what GMO stands for.  **Main Point /Supporting points / Evidence, example or data / in-text citation [information prominent]**   * A definition of what is genetically modified food. * How it became a debating topic. * A graph or a list shows the it is first stage of production.     Main point: explain GMO and its relation to Health and environment  Supporting point: the origin of GMO and the public thoughts about it |
| **Paragraph 2: Purpose**  **Topic sentence:** the first group of genetically modified food was a failure, due being full of toxics and that did not please the consumers, and since then many food and agriculture experts started to work on making much more safe and affordable products.  **Main Point /Supporting points / Evidence, example or data / in-text citation [information prominent]**   * **To define the main GMO issues regarding health** * **To show some research or studies that been done to deal with the impacts** * **The solution that been taken or planned toward the problem**     Main point: to the list the problem that came off GMO that effected health  Supporting point: representing a list or a figure with some off the side effects that came off GMO |
| **Paragraph 3: Purpose**  **Topic sentence:**  Chemicals played an important role in altering the crops and one of the ways to produce modified crops was to apply the chemicals where the crops grown.  **Main Point /Supporting points / Evidence, example or data / in-text citation [information prominent]**   * To mention changes to the environments at the first years for GMO * Introduce the errors that did not take in mind when they were using chemicals on crops * Presenting the measurements that been taken to save the environment   Main point: Is to present the first impacts on the environment during the first period of creating GMO crops  Support point: to show the studies or events that has affected the environment because of GMO |
| **Paragraph 4: Purpose**  **Topic sentence:**  After many failures that faced the society to introduce valuable and safer chemically injected crops, scientists and Food experts found new replacement for the previous methods of building GMO chemicals.  **Main Point /Supporting points / Evidence, example or data / in-text citation [information prominent]**   * **To present the steps that been taken in the last 20 years or so to create better GMO** * **The new discoveries in the agriculture studies to create a non-toxic GMO environment** * **The latest improvement in medical studies to produce a healthier and full of neutrinos genetically altered food**   Main point: is to prove the possibility of having a better and non-poisonous GMO  Supporting information: examples of healthy environment friendly genetic altered products and crops |
| **Paragraph 5: Purpose**  **Topic sentence:** Current studies are in plan to create a fully improved altered food that grant the consumers stronger immunity against disses and viruses.  **Main Point /Supporting points / Evidence, example or data / in-text citation [information prominent]**   * To give examples such as the golden rice in Asia that reduced serval spreading disses. * Producing crops that does not ending up poisoning the population. * Providing all daily needs of vitamins and nutrients in each single organic crop.     Main point: explain the process of producing fully nutritious and healthy crops.  Support point: examples of successful and safe GMO products. |
| **Paragraph 6: Purpose**   * To present examples of friendly non-toxic and unfriendly agricultural farms. * To present a comparison of organic food and genetically modified food process in current era. * Number of solutions for the environments around the world, specially developing countries.   **Topic sentence:**  The current farms became better than how it used to be around 20 years ago.  **Main Point /Supporting points / Evidence, example or data / in-text citation [information prominent]**  Main point: To introduce the requirements a solid, non-toxic environment for new genetically modified food.  Support point: A graph of two different types of well known GMO farms. |
| **[Add additional paragraphs as required]** |
| **Conclusions:**  **Genetically modified organisms started as an idea for gaining increased profit, but with time many found better uses for that idea, for example creating a healthier food, extra nutritious crops and to be able to produce enhanced food without damaging the environment or it is inhabitants.** |