|  |  |
| --- | --- |
|  | **Student response** |
| ***research skills*** | |
| Information source (correctly formatted reference) | Grass-Fed Beef, Is It Really Superior? – The Candid RD.” *The Candid RD.* N.p.,n.d.Web.24 Aug. 2014 |
| Relevant information highlighted in materials submitted |  |
| ***analysis*** | |
| **relevance:**  (the degree to which a source addresses the topic) | * This website looks at both sides of the argument, looking at the pros and cons of grass fed beef clearly. |
| **possibility of bias:**  (evidence of a prejudiced or partial viewpoint that influences interpretation of the material) | * There could be bias as he/she clearly says they work at a meat production company. |
| **credibility:**  (the trustworthiness, i.e. credentials, education, experience, peer review etc. of the source | * The same goes for the answer above |
| **other factors:**  (ease of access, clarity of language and presentation, use of diagrams) | * It is clear in the language he/she uses, images used are not really necessary. |

Topic Question: How does the consumption of grass fed beef compared to grain fed beef have in terms of obesity?

**Source Analysis Work Sheets**

**Investigation:**

Selects with some focus, and mostly appropriately acknowledges, information about nutrition and issues in nutrition.

|  |  |
| --- | --- |
|  | **Student response** |
| ***research skills*** | |
| Information source (correctly formatted reference) | “Health Benefits of Grass-Fed Products.” *Eat Wild.* N.p.,n.d.Web.23 Aug. 2014 |
| Relevant information highlighted in materials submitted |  |
| ***analysis*** | |
| **relevance:**  (the degree to which a source addresses the topic) | * This website addresses the points explaining the health benefits of grass-fed beef. |
| **possibility of bias:**  (evidence of a prejudiced or partial viewpoint that influences interpretation of the material) | * Unsure about bias |
| **credibility:**  (the trustworthiness, i.e. credentials, education, experience, peer review etc. of the source | * Unsure about author |
| **other factors:**  (ease of access, clarity of language and presentation, use of diagrams) | * Is reasonably clear with the use of graphs, however some are not relevant. Language is fairly clear and easy to follow. |

**Investigation:**

Selects with some focus, and mostly appropriately acknowledges, information about nutrition and issues in nutrition.

**Grain fed vs grass fed: obesity**

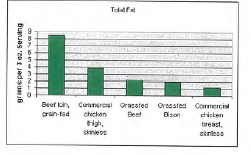
**How does the consumption of grass fed beef compared to grain fed beef have in terms of obesity?**

Grain fed vs grass fed beef has been a long debatable topic, with discussing in relation to which one is better for us to consume. There are some other discussions relating around this topic with the costs for each and the environmental impact it has. In saying this, the focus is on how does what the cow eats affect our health. The main topic of conversation relating around health is whether grain fed or grass fed affects more cases of obesity and increases fat intake. Obesity is an increasingly societal epidemic with [[1]](#footnote-1)63 percent of adults in Australia overweight. In Australia [[2]](#footnote-2) two out of three adults and one out of four children in Australia are overweight or obese. This is a number that is continually growing, in the [[3]](#footnote-3)last four years it grew by 2 million people. In Australia [[4]](#footnote-4)80% of the beef sold in stores are grain fed, this could contribute greatly to the obesity crisis in Australia as Grain fed beef contains much more fat compared to grass fed beef.

Grass fed cows roam around in paddocks freely and eat only grass, whereas grain fed cows are in feedlots and are fed grains. Grass fed beef for a start is significantly lower in fat, as the graph below clearly shows. [[5]](#footnote-5)If the grass fed beef is lean it can have one third as much fat as a similar cut from a grain fed cow. Also shown in the graph, grass fed beef almost has as little fat as skinless chicken breast. Lean grass fed beef has also shown [[6]](#footnote-6)it can lower LDL cholesterol levels. For example a sirloin steak that was grass fed has one half – one third the amount of fat from the same cut of grain fed cow. [[7]](#footnote-7)If you ate a standard amount of beef a year (30g), by switching to grass fed instead of grain fed you will save 17733 calories a year. If you did not change anything else in your diet you would lose about 3kg a year. If everyone began to do this the obesity epidemic would begin to decline.

**Knowledge and Understanding:**

Uses knowledge of nutrition with some logic to understand and explain one or more issues related to diet, lifestyle, culture, and health.

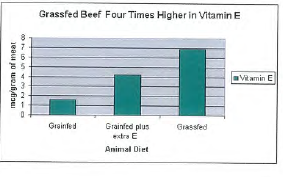


[[8]](#footnote-8)Grass fed beef has two to four times more omega-3 fatty acids than grain fed beef. Omega-3 fatty acids are known as “good fats”, they play a vital role in every cell and system in our bodies. Omega-3 fatty acids play a crucial role in brain function, as well as ensuring normal growth and development. [[9]](#footnote-9)Individuals who have a lot of aomega-3 in their diets are less likely to have high blood pressure or an irregular heartbeat. As well as being significantly higher in omega-3, grass fed beef is also a lot higher in vitamin E. Grass fed beef [[10]](#footnote-10)is actually four times higher in vitamin E than grain fed beef. Vitamin E lowers the risk of heart disease and cancer. Looking at similar cuts of beef grass fed usually contains [[11]](#footnote-11)lower levels of cholesterol-elevating saturated and trans fats (bad fats), higher levels of omega-3 (EPA/DHA), have more vitamins (A and E), twice as much CLA (conjugated linoleic acid) and grass fed beef produces much less carbon, therefore being better for the environment.

**Knowledge and Understanding:**

Demonstrates some depth and breadth of knowledge and understanding of a range of nutrition concepts.

culture, and health.



**Application:**

Applies nutrition concepts and evidence from investigations to suggest solutions to problems and to promote good health in new and familiar contexts.

All this information does suggest that grass fed beef contains less fat than grain fed however sometime this is not necessarily the case. In some cases you can buy [[12]](#footnote-12)the same cut of grain fed beef that is just as lean as grass fed beef and it is cheaper. Someone from a meat company did some research on their own products, when compared to similar cuts the grass fed beef was typically leaner, however [[13]](#footnote-13)85% lean ground beefs both have the same fat, saturated fat and even cholesterol, this suggests that to find out which meat is leaner it really depends on which brand you are looking at.

Grain fed beef can be found at very lean levels[[14]](#footnote-14) (90 percent lean or greater), this also come with very low levels of unhealthy fats. With the [[15]](#footnote-15) high levels of omega-3 in grass fed beef, they are still far lower compared to the levels of omega-3 found in fish, so no matter what you will still have to consume fish to get the recommended amount. [[16]](#footnote-16)The fattier cuts of grass fed beef actually contain a fair amount of CLA and omega-3. Although not related to obesity or nutrition grass fed beef is

usually more expensive that a similar cut of grain fed.

After gathering all this information I am now more aware that there is a major nutritional difference between the two types of meat, mainly how the fat content differs. Using my research I now strongly believe that grass fed is much better, especially in terms of the obesity crisis. If more people ate grass fed beef, they would not consume as much bad fats, and I believe it would majorly decrease the risk of obesity.

There is lot of strong evidence that strongly shows that grass fed beef would contribute to the obesity sand extreme amount less than grain fed and is just generally much more nutritious for you. In saying that grass fed beef is much better like everything it also has some negatives. However the positives of grass fed beef strongly outweigh the negatives, making it the best opinion if you are trying to limit fat intake.

**Analysis and Evaluation:**

Analyses data and their connections with concepts, to formulate generally appropriate conclusions

**Bibliography:**

* “Grass-Fed Beef, Is It Really Superior? – The Candid RD.” *The Candid RD.* N.p.,n.d.Web.24 Aug. 2014
* “Health Benefits of Grass-Fed Products.” *Eat Wild.* N.p.,n.d.Web.23 Aug. 2014
* “5 Reasons to Switch to Grass-Fed Meat, Right Now!” *Dr Frank Lipman.* N.p.,n.d.Web.24 Aug. 2014
* “The Health Benefits of Grass Farming.” *Health Benefits of Grass Fed Beef.* N.p.,n.d.Web.23 Aug. 2014
* “63 per Cent of Aussies Overweight or Obese.” *ABC News.* N.p.,n.d.Web.24 Aug. 2014
* “Australia’s Obesity Crisis Worsens as Survey Shows Two out of Three Adults Overweight or Obese.” *NewsComAu.* N.p.,n.d.Web. 24 Aug.2014
* “In Australia Most Cattle Are Grass-fed but Most Beef is Grain-fed.” *GRUB.* N.p.,n.d.Web.24 Aug. 2014

***Please note:***

*The student provided copies of the following internet articles:*

*“*

*Grass-Fed Beef, Is It Really Superior? – The Candid RD.”, accessed on 24 Aug. 2014,*

*and included highlighted sections to show analysis. For copyright reasons, the article has been removed.*

*“*“*Health Benefits of Grass-Fed Products.” Eat Wild. Accessed on 23 Aug. 2014*

*and included highlighted sections to show analysis. For copyright reasons, the article has been removed.*

**Additional Comment**

This is illustrative of a C+ grade response.

Performance Standards for Stage 2 Nutrition

|  | Investigation | Analysis and Evaluation | Application | Knowledge and Understanding |
| --- | --- | --- | --- | --- |
| A | Designs logical, coherent, and detailed nutrition investigations.  Critically and logically selects and consistently and appropriately acknowledges information about nutrition and issues in nutrition from a range of sources.  Manipulates apparatus, equipment, and technological tools carefully and highly effectively to implement well-organised safe and ethical investigation procedures.  Obtains, records, and displays findings of investigations using appropriate conventions and formats accurately and highly effectively. | Critically and systematically analyses data and their connections with concepts, to formulate logical and perceptive conclusions and make relevant predictions.  Logically evaluates procedures and suggests a range of appropriate improvements. | Applies nutrition concepts and evidence from investigations to suggest solutions to complex problems and to promote good health in new and familiar contexts.  Uses appropriate nutrition terms and conventions highly effectively.  Demonstrates initiative in applying constructive and focused individual and collaborative work skills. | Consistently demonstrates a deep and broad knowledge and understanding of a range of nutrition concepts.  Uses knowledge of nutrition perceptively and logically to understand and explain issues related to diet, lifestyle, culture, and health.  Uses a variety of formats to communicate knowledge and understanding of nutrition in different contexts coherently and highly effectively. |
| B | Designs well-considered and clear nutrition investigations.  Logically selects and appropriately acknowledges information about nutrition and issues in nutrition from different sources.  Manipulates apparatus, equipment, and technological tools carefully and mostly effectively to implement organised safe and ethical investigation procedures.  Obtains, records, and displays findings of investigations using appropriate conventions and formats mostly accurately and effectively. | Clearly and logically analyses data and their connections with concepts, to formulate consistent conclusions and make mostly relevant predictions.  Evaluates procedures and suggests some appropriate improvements. | Applies nutrition concepts and evidence from investigations to suggest solutions to problems and to promote good health in new and familiar contexts.  Uses appropriate nutrition terms and conventions effectively.  Applies mostly constructive and focused individual and collaborative work skills. | Demonstrates some depth and breadth of knowledge and understanding of a range of nutrition concepts.  Uses knowledge of nutrition logically to understand and explain issues related to diet, lifestyle, culture, and health.  Uses a variety of formats to communicate knowledge and understanding of nutrition in different contexts coherently and effectively. |
| C | Designs considered and generally clear nutrition investigations.  Selects with some focus, and mostly appropriately acknowledges, information about nutrition and issues in nutrition.  Manipulates apparatus, equipment, and technological tools generally carefully and effectively to implement safe and ethical investigation procedures.  Obtains, records, and displays findings of investigations using generally appropriate conventions and formats with some errors but generally accurately and effectively. | Analyses data and their connections with concepts, to formulate generally appropriate conclusions and make simple predictions, with some relevance.  Evaluates some procedures in nutrition and suggests some improvements that are generally appropriate. | Applies nutrition concepts and evidence from investigations to suggest some solutions to basic problems and to promote good health in new or familiar contexts.  Uses generally appropriate nutrition terms and conventions with some general effectiveness.  Applies generally constructive individual and collaborative work skills. | Demonstrates knowledge and understanding of a general range of nutrition concepts.  Uses knowledge of nutrition with some logic to understand and explain one or more issues related to diet, lifestyle, culture, and health.  Uses different formats to communicate knowledge and understanding of nutrition in different contexts with some general effectiveness. |
| D | Prepares the outline of a nutrition investigation.  Selects and may partly acknowledge one or more sources of information about nutrition or an issue in nutrition.  Uses apparatus, equipment, and technological tools with inconsistent care and effectiveness and attempts to implement safe and ethical investigation procedures.  Obtains, records, and displays findings of investigations using conventions and formats inconsistently, with occasional accuracy and effectiveness. | Describes basic connections between some data and concepts, and attempts to formulate a conclusion and make a simple prediction that may be relevant  For some procedures, identifies improvements that may be made. | Applies some evidence to describe some basic problems and identify one or more simple solutions, or to promote good health, in familiar contexts.  Attempts to use some nutrition terms and conventions that may be appropriate.  Attempts individual work inconsistently, and contributes superficially to aspects of collaborative work. | Demonstrates some basic knowledge and partial understanding of nutrition concepts.  Identifies and explains some nutrition information that is relevant to one or more issues related to diet, lifestyle, culture, and health.  Communicates basic information about nutrition to others, using one or more formats. |
| E | Identifies a simple procedure for a nutrition investigation.  Identifies a source of information about nutrition or an issue in nutrition.  Attempts to use apparatus, equipment, and technological tools with limited effectiveness or attention to safe or ethical investigation procedures.  Attempts to record and display some descriptive information about an investigation, with limited accuracy or effectiveness. | Attempts to connect data with concepts, formulate a conclusion, and make a prediction.  Acknowledges the need for improvements in one or more procedures. | Identifies a basic problem and attempts to identify a solution or promote good health in a familiar context.  Uses some nutrition terms or conventions.  Shows emerging skills in individual and collaborative work. | Demonstrates some limited recognition and awareness of nutrition concepts.  Shows an emerging understanding of an issue related to diet, lifestyle, culture, and health.  Attempts to communicate information about nutrition. |

1. “63 per Cent of Aussies Overweight or Obese.” ABC News. N.p.,n.d.Web.24 Aug. 2014 [↑](#footnote-ref-1)
2. “Australia’s Obesity Crisis Worsens as Survey Shows Two out of Three Adults Overweight or Obese.” *NewsComAu*. N.p.,n.d.Web. 24 Aug.2014 [↑](#footnote-ref-2)
3. ibid [↑](#footnote-ref-3)
4. “In Australia Most Cattle Are Grass-fed but Most Beef is Grain-fed.” GRUB. N.p.,n.d.Web.24 Aug. 2014 [↑](#footnote-ref-4)
5. “The Health Benefits of Grass Farming.” *Health Benefits of Grass Fed Beef*. N.p.,n.d.Web.23 Aug. 2014 [↑](#footnote-ref-5)
6. “Health Benefits of Grass-Fed Products.” *Eat Wild*. N.p.,n.d.Web.23 Aug. 2014 [↑](#footnote-ref-6)
7. “The Health Benefits of Grass Farming.” *Health Benefits of Grass Fed Beef*. N.p.,n.d.Web.23 Aug. 2014 [↑](#footnote-ref-7)
8. “Health Benefits of Grass-Fed Products.” *Eat Wild*. N.p.,n.d.Web.23 Aug. 2014 [↑](#footnote-ref-8)
9. ibid [↑](#footnote-ref-9)
10. ibid [↑](#footnote-ref-10)
11. “The Health Benefits of Grass Farming.” *Health Benefits of Grass Fed Beef*.” N.p.,n.d.Web.23 Aug. 2014 [↑](#footnote-ref-11)
12. “Grass-Fed Beef, Is It Really Superior? – The Candid RD.” *The Candid RD.* N.p.,n.d.Web.24 Aug. 2014 [↑](#footnote-ref-12)
13. ibid [↑](#footnote-ref-13)
14. ibid [↑](#footnote-ref-14)
15. ibid [↑](#footnote-ref-15)
16. ibid [↑](#footnote-ref-16)