

2019 VCE Food Studies examination report

General comments

The 2019 Food Studies examination assessed students' knowledge and understanding of Areas of Study 1, 2 and 3 of Units 3 and 4. All key knowledge and skills that underpin the outcomes were examinable.

The examination consisted of two parts: Section A contained 15 multiple-choice questions and Section B contained 11 questions, including one extended-response question.

Many students did not focus on the information provided in the questions and this resulted in non-specific answers.

Some students were unable to tailor the content of their answers to the focus of the question in some cases.

Reading and using data information provided in question stems was also poor.

Demonstration of key skills linked to related areas of study was poor in many questions.

Specific information

Note: Student responses reproduced in this report have not been corrected for grammar, spelling or factual information.

This report provides sample answers or an indication of what answers may have included. Unless otherwise stated, these are not intended to be exemplary or complete responses.

The statistics in this report may be subject to rounding resulting in a total more or less than 100 per cent.

Section A – Multiple-choice questions

The table below indicates the percentage of students who chose each option. The correct answer is indicated by shading.

Question	% A	% B	% C	% D	Comments
1	95	3	1	0	
2	1	2	8	89	
3	6	2	46	46	The Food Standards Code states that any food recall notices must be published in the various types of news media to inform the consumer, whereas evidence-based principles may be published in a variety of sources relevant to the research topic.
4	4	66	25	5	
5	27	2	66	5	
6	4	8	30	58	Protein is a secondary source of energy for the body and does not contain fibre. Digestion of protein does not increase blood glucose levels in healthy people.
7	5	67	14	13	
8	11	20	46	23	When assessing claims made by weight-loss companies, consumers are making judgments about the product. They need to question the validity of information provided and reasons behind the development of the product.
9	1	7	33	59	The only response included in the Australian Dietary Guidelines is D. The other statements do not reflect information provided in the guidelines. Physical activity is encouraged, limited consumption of fruit drinks is recommended and there is no mention of organic produce.
10	1	81	3	16	
11	2	90	7	1	
12	7	14	64	15	Seafood is high in protein and these foods provide satiety. Seafood is not high in fibre and low-fat foods do not provide satiety.
13	83	4	5	8	
14	90	2	7	1	
15	2	0	7	91	

Section B

Question 1a.

Marks	0	1	2	3	Average
%	44	41	13	3	0.8

Students could refer to any flour. A suitable response could have included one of the following:

- Gets thicker: This can be seen by how far the gel spreads on the plate after cooking. Wheat flour has the greatest spread of 94 mm.
- Viscosity increases: The thicker the mixture, the less it spreads. The rice flour mixture spread to 52 mm; or quinoa has a greater spread than rice, 70 mm compared to 52 mm.
- Colour changes: Change of colour from white to opaque.

For full marks, students were required to link back to results or use the data provided in their answer.

Many responses were incorrect.

The following is an example of a high-scoring response.

When wheat flour is cooked in water it becomes thicker or more viscous. The thicker the mixture the less it will spread when cooled. Wheat flour has a spread of 94mm which was the largest of the flours named in the table.

Question 1b.

Marks	0	1	2	3	4	Average
%	60	9	8	10	12	1.1

An example of a suitable response: Gelatinisation is the chemical change that occurs when flour is cooked in water. The starch granules found in the flour absorb the water as the cell walls soften, and when heat is applied they swell, causing the mixture to thicken.

Question 1c.

Marks	0	1	2	3	Average
%	23	17	51	9	1.5

Students were required to refer to the flours named in the table provided. A suitable response could have included either rice flour or quinoa flour. For example: Quinoa flour / rice flour does not contain gluten so is a suitable substitute for wheat in a gluten-free sauce. The quinoa flour / rice flour will produce a thicker sauce; therefore, less flour will need to be used to create a sauce with a similar texture to a wheat-based sauce / the addition of more liquid/water will decrease the viscosity of the sauce, resulting in a similar texture to a wheat-based sauce.

Question 1d.

Marks	0	1	2	Average
%	7	15	79	1.7

A suitable response could have included two of the following:

- nutrition information panel
- prescribed name of the food
- lot identification

- name and address of the supplier
- a statement of ingredients / ingredients listing
- date marking information
- storage conditions and directions for use
- information about characterising ingredients and characterising components / percentage labelling
- country of origin
- weight/measure of contents/quantity measures.

Note: Advisory statements of allergen declaration is not correct as it was provided in the question.

Question 1e.

Marks	0	1	2	Average
%	6	44	50	1.5

A suitable response could have included:

- ensures consumers are informed about what they are purchasing and are provided with what they paid for
- allows consumers to accurately distinguish between food products
- enables consumers to make decisions about products based on their ethical views and values
- enables consumers to make informed decisions about the safe consumption of a food product
- protects public health and safety by displaying information.

Question 2a.

Marks	0	1	2	3	4	Average
%	18	20	29	18	15	1.9

A correct response needed to clearly compare crops to animals. A suitable response could have included two of the following:

- The resources required to produce crops, such as water and land space, may be less than what is required to produce animals.
- Crops may be a better solution as they may have less of an environmental impact and can feed more people for fewer resources. Crops are needed to feed animals as well as to feed the growing population.
- Significantly more crops would need to be produced to ensure animal feed needs are met.
- Crops tend to have a higher yield per acre than animals; therefore, a higher volume of food is produced for a growing population.
- Crops generally offer a wider range of nutrients than animal sources. This may provide a growing population with adequate nutrient intake to optimise health and wellbeing.
- Crop production may be cheaper to grow, harvest and transport, compared to livestock.
- Crop production may be more efficient as less time is required to grow, harvest and transport compared to livestock.

Many responses were incorrect.

The following is an example of a high-scoring response.

Less land and natural resources such as water are required to produce crops than are used in animal production. Crops produce more food in a shorter period of time than it takes for animals to grow and become ready for use as food and crops do not produce methane emissions during their growth like animals can do, therefore do not contribute to greenhouse emissions which can impact the ozone layer and cause climate change.

Question 2b.

Marks	0	1	2	3	4	Average
%	26	5	18	26	26	2.2

A suitable response could have included one of the following:

- hybridising traditional and indigenous edible seeds and grains
- solar energy
- genetic modification (GM)
- biogas
- nanotechnology
- computer modelling
- data mapping
- drones
- mobile phones
- scientifically tailored fertilisers.

Note: The response needed to relate to positive impacts on crop production and link to increased food security.

Question 3.

Marks	0	1	2	3	Average
%	25	26	29	20	1.5

A suitable response could have included one of the following:

- Vegetables add bulk (fibre) to the diet without excessive kilojoule consumption and are therefore required in greater amounts.
- A wider variety of vegetables is required in greater amounts to provide the body with essential nutrients; therefore, consumption recommendations are higher than for fruits.
- Fruits are higher in sugar or kilojoule content compared to vegetables and therefore should not be eaten in the same quantity.
- Consuming a wide range of vegetables is linked to a reduction in diet-related diseases so an increased amount of vegetables in the diet will include an increased variety of nutrients.

Question 4a.

Marks	0	1	2	3	Average
%	45	4	19	32	1.4

A suitable response could have included one of the following:

- Cultural norms: White rice is a longstanding preferred staple in many cultures.
- Historically, white, processed grains were preferred over wholemeal products as they indicated wealth: they were more expensive and difficult to produce
- White rice is easier to eat and requires less chewing / white rice is quicker to cook, and therefore less energy is used / busy people may find it difficult to find the time to utilise wholegrain.
- Education: Lack of nutritional education may result in a person choosing white over wholegrain rice as they are not aware of the nutritional benefits.

- Income: The social factor income contributes to individuals choosing white rice because it is generally the cheaper of the two.
- Location: Being able to source healthier brown rice varieties. This may be due to living in rural areas with supermarkets that only stock white rice.

Question 4b.

Marks	0	1	2	3	4	5	6	Average
%	16	10	18	22	15	10	9	2.8

A suitable response could have included two of the following criteria and an assessment for each:

- Source – author
 - CSIRO is Australia’s national science research agency and considered reliable
 - Federal government agency is a reliable source
- Purpose – to share factual information
 - New rice variety and its nutritional benefits
 - Written in an informative manner
- Context, reason for the information, date of publication
 - Increasing awareness of nutritional information and benefits of eating wholegrain rice
 - Australia’s increasing obesity rates
 - Recent publication – published in 2018
- Presentation of evidence – scientific evidence, reliability, currency, validity, objective, age of information
 - Research developed in partnership between CSIRO and Chinese Academies and the University of Melbourne
 - No evidence of sample size
 - Information presented objectively but there is an emphasis on changing consumer habits from white rice to wholegrain varieties because of the added nutritional benefits
 - Reliable as the research is conducted by CSIRO
 - Validity is difficult to determine as statistical information is not provided
- Language used – technical/professional
 - Technical language is used regarding the discussion or rice
 - Provides clear explanation of how the nutritional benefit of the new variety is retained.

The following is an example of a high-scoring response.

The information is based on research that has been conducted by an independent government organization-CSIRO and Chinese Academies and University of Melbourne and therefore has increased validity as these sources are viewed as reliable and trustworthy as they are reputable educational institutions and research agencies.

This articles currency is also high as it is addressing current issues in society of obesity and attempts being made to enhance nutrition to improve health. It is also recent research with results published in 2018 and provides evidence of testing that was done by rice breeders in China.

Question 5a.

Marks	0	1	2	3	Average
%	53	27	15	5	0.7

A suitable response could have included the following: Varying levels of acidity impact the growth of different microorganisms (between the pH of approximately 2 and 9.5). Foods that have a low pH environment (higher acid environment), such as sauerkraut, have pH levels that create conditions in which microorganisms are unable to multiply.

Many students did not interpret the graph correctly and therefore gave incorrect responses.

The following is an example of a high-scoring response.

The graph shows that bacteria, yeasts and moulds can grow between the pH of 2 and 9. Foods that are high in acid have a lower pH, between 0 and 2 are not likely to grow micro-organisms like yeasts, moulds and bacteria. As the pH increases above 2 towards 9 there is more chance of bacteria, yeasts and moulds growing in foods like fruit juices and milk.

Question 5b.

Marks	0	1	Average
%	64	36	0.4

A suitable response could have included one of the following:

- decreased/lower pH
- increased/higher acidity
- acidification
- pH reduces from 7 to 2.

Question 6a.

Marks	0	1	2	Average
%	61	17	22	0.6

Students were required to state a nutrient/substance and a disease in their response. A suitable response could have included one of the following:

- To inform consumers of a nutrient or substance in a food and its relationship to a serious disease or a biomarker of a serious disease.
- The purpose of a high-level health claim is to alert the consumer to the fact that the food may have a health effect in relation to a serious disease.

Question 6b.

Marks	0	1	Average
%	73	27	0.3

A suitable response could have included one of the following:

- Diets high in calcium (dairy foods) may reduce the risk of osteoporosis in people aged 65 years and older.
- Phytosterols may reduce blood cholesterol
- Folic acid reduces the risk of foetal neural tube defects.

Note: The nutrient included in the response needed to relate to the disease stated.

Question 7a.

Marks	0	1	2	3	Average
%	9	17	34	40	2.1

A suitable response could have included some of the following:

Location

- Living close to a wide variety of takeaway food options that offer service
- Location does not support the use of the app (no takeaway food options)
- Lack of transportation options to supermarket, easier if the food is delivered
- High delivery costs to particular locations may decrease use of app
- Urban areas may have cheaper takeaway food options than regional areas
- Remote area may not support online apps due to distance required to travel for delivery

Income

- Individuals may find it cheaper to have food delivered
- High-income earners more likely to use the app
- Low income earners may not be able to afford takeaway food
- A range of food options available to suit various price points

Accommodation

- Availability of resources to store/prepare foods at home
- Lack of cooking equipment in the household
- Lack of available space in the home to prepare a meal due to overcrowding of the accommodation
- You need to have an address to have food delivered, meaning the use of online app difficult for people experiencing homelessness

Note: The social factor selected must be from the list provided.

Question 7b.

Marks	0	1	2	Average
%	25	32	43	1.2

A suitable response could have included some of the following:

- The app is accessed from a person’s phone or device; this would require no physical activity or energy expenditure to order the food. Food is delivered to the door and no preparation is required, therefore no energy is used in purchasing and preparing the food.
- Having food delivered creates more time to exercise as there is no time taken up with preparation and cooking of food.
- People delivering the food can ride bikes, increasing their physical activity.

Question 7c.

Marks	0	1	2	Average
%	17	28	55	1.4

A suitable response could have included some of the following:

Food is ordered on the online app, which does not require any verbal conversation with the food vendor. The food is then delivered. Payment for the food is often made through the app so little to no conversation is required with the delivery person. The consumer is not required to interact with others or be in a social setting, such as a restaurant.

Question 7d.

Marks	0	1	2	3	4	Average
%	21	38	26	12	4	1.4

Students needed to show an understanding of the Australian Guide to Healthy Eating (AGTHE). A suitable response could have included the following:

- The pizza contains wheat flour and cheese, which are represented in the Australian Guide to Healthy Eating (AGTHE), although the guide states that grain-based foods should be mostly wholegrain.
- Cheese is recommended to be reduced fat, as stated in the AGTHE – which is not the case in this recipe.
- The pizza sauce is made from tomato paste, which is often very high in sugar and salt, so it would not align with the Vegetables and legumes section of the guide.
- Foods high in salt and sugar are recommended to be consumed only occasionally, and in small amounts. These are not included in the food group of the AGTHE.
- Two segments of the AGTHE – lean meats and fruits – are not represented.

The response needed to focus on the pizza margherita with reference to the provided ingredients list. Serving sizes are not relevant to this question.

Many responses were incorrect.

The following is an example of a high-scoring response.

The pizza contains foods from some of the five food groups shown in the AGHE. The pizza dough contains flour but it is not wholegrain as recommended by the AGHE and it also contains oi, salt and sugar which are discretionary foods, which should only be consumed in small amounts. The mozzarella cheese is from the dairy section of the AGHE but is not low-fat which is also recommended by the guide.

Question 8

Marks	0	1	2	3	4	5	6	Average
%	31	21	18	18	8	3	1	1.7

A suitable response could have included some the following:

- Uses farming practices that conserve the soil and the capacity of the soil to retain water, which improves the conditions for plant growth and future soil health, making it a sustainable choice
- Uses a range of sustainable farming strategies, such as good soil management techniques
- Uses the sustainable production practice of crop rotation; by rotating crops, nutrients in the soil such as nitrogen are regenerated rather than depleted through the continued use of a single crop – reduced chemicals and fertilisers are needed for soil health
- Grazing rotation has similar benefits to crop rotation, meaning that one area is not relied upon heavily, thereby ensuring sustainability
- The use of green manure, which increases nitrogen levels in the soil
- Protects the current and future land use against further environmental degradation
- Animal waste used to fertilise the soil
- Strong focus on biodiversity with increased insects and soil microorganisms present compared to other farming practices
- Sustainable methods of pest control

- Organic farming, which may not use crop rotation and only uses natural systems, can still overirrigate and overuse natural fertilisers (among other issues), which can have environmental impacts
- Uses less land than organic cropping to produce the same yield
- Traditional farming practices, which may not use sustainable systems.

This question was not well done.

The following is an example of a high-scoring response.

Low impact farming works to maintain soil nutrients and sustainability using methods that aren't detrimental to the environment. Environmentally this method is very suitable for sustainability in primary food production. Using methods like no till farming whereby stubble is left from previous crops to enrich and stabilize the soil's nutrients whilst also preventing soil erosion from rain or wind helps to ensure the health and future of soils to continue producing healthy crops. As well as other methods like crop rotation it helps ensure the nitrogen remains constant within the soil by planting lentil or pulse crops between high nitrogen requiring crops. With crop rotation the soil is not being depleted of the same nutrients each year and some crops are grown to be dug back into the soil as green manure to provide nutrients in the soil. These methods of low impact farming prevent the overuse of fertilisers which when constantly applied increase the rate of soil acidification, and chemicals such as herbicides and pesticides can affect the biodiversity which also impacts the health and yield of crops overtime. Farmers using low impact methods also monitor the use of water and do not overwater like some traditional farming did. Overwatering can cause soil salinity and impact on soil health and affect crop health and yield. In using these low impact methods environmental sustainability is a very good choice for primary food production.

Question 9a.

Marks	0	1	2	3	4	Average
%	34	15	20	16	16	1.7

A suitable response could have included one of the following:

- Biodiversity refers to the variety of plant and animal life in a particular habitat or the world, whereas biosecurity is the measures designed to protect populations such as Australia's against harmful biological or biochemical substances, diseases and pests.
- Biodiversity is the variety of all living things: the different plants, animals and microorganisms, the genetic information they contain and the ecosystems they form, whereas biosecurity involves the management of risks to the economy, the environment and the community, of pests and diseases entering, emerging, establishing or spreading.

Question 9b.

Marks	0	1	2	3	Average
%	55	12	19	14	0.9

A suitable response could have included one of the following:

- Disease outbreak: One of the greatest threats to primary food production is disease outbreak. Infection may spread rapidly and animals or plants/crops infected with disease may have to be destroyed. This would have a significant impact on the number of animals or plants/crops available for primary food production in Australia, resulting in a decrease in productivity.
- Introduced pests from other countries or states may contaminate, take over or harm primary food production, resulting in reduced yield or land that is unsuitable for food production.

Note: Students were required to describe the risk, not explain how to prevent it.

This question was not well done.

The following is an example of a high-scoring response.

Foot and mouth disease is a risk to primary production. Foot and mouth disease is a virus that is very contagious and affects cattle, sheep, pigs and goats. It causes large ulcers on the animals and in their mouths, meaning they cannot walk and stand and are unable to eat or drink. Affected animals need to be destroyed to prevent the disease spreading therefore affecting primary food production.

Question 10a.

Marks	0	1	2	3	Average
%	23	38	28	11	1.3

A suitable response could have included some of the following:

- Education that aids in the development of a child's understanding of the seasonality of food can help children and families consume a diet of produce that is in abundance, ensuring access to sufficient and nutritious foods, reducing the burden on global food resources.
- Educating children about growing foods may assist them in the future to be self-sufficient and be able to grow their own foods and teach others as well.
- Education focused on teaching children how to grow their own food using native plants and local resources may reduce the drain on world food resources as they are increasing self-sufficiency.
- Educating children about growing foods can reduce the number of food miles and may be better for the environment; for example, fewer fossil fuels are used in transportation. These fuels generate greenhouse emissions, which contribute to climate change and global warming.
- Building education and knowledge around seed banks and sustainable use of seeds ensures seeds are not lost and protects the ongoing production and growth of food.

Question 10b.

Marks	0	1	2	3	Average
%	40	10	30	20	1.3

A suitable response could have included one of the following:

- Exposure: This helps create healthy meal patterns by children being exposed to a variety of fresh foods like fruits and vegetables. Children may develop a taste for these foods if there is a variety of fresh foods offered to them regularly.
- Modelling: This helps create healthy meal patterns in families as children learn by examples set by their parents or others. They see what the parents and others around them eat and imitate them. Modelling can occur when children are involved in meal preparation and shopping with the parents.
- Repetition: Repeated occurrence of healthy foods may provide children with opportunities to learn about and become familiar with these foods and assist in establishing healthy meal patterns. The same type of food could be served in lots of different ways – for example, grated, cooked or cut into sticks – to encourage children to try this food.

Question 11

Marks	0	1	2	3	4	Average
%	17	15	25	22	21	2.2

A suitable response could have included one of the following for each food group.

Food group 1

- Carbohydrates found in grains and cereals provide the body with energy and fibre. Additional energy is needed during pregnancy to aid in foetal growth and growth of maternal tissues.
- Additional fibre is needed for maternal gut health and reduces the risk of constipation.
- Folate or folic acid is needed for growth and the formation of the neural tube during early pregnancy. The neural tube is a layer of cells that goes on to form the brain and spinal cord. If this tube does not fuse properly, this can cause spina bifida.

Food group 2

- Protein and iron are found in meats. Protein is needed in the body for increased growth of foetal tissues, maternal tissues and the placenta. As protein is a secondary source of energy, it could be used for growth of foetal and maternal tissues as well as meeting the extra energy requirements of the mother.
- Iron helps to aid in the increased maternal blood supply and for the growing foetus.

Question 12

Marks	0	1	2	3	4	5	6	7	8	9	10	Average
%	11	14	22	18	17	9	4	2	1	1	0.3	2.9

Responses should include some of the following:

- How contemporary contexts, such as social media, influence the shaping and expression of an individual's identity and connectedness (should connect/link to low carbohydrate, high-fat [LCHF] diet)
 - Social media influencers are seen as trusted sources of information although they may have no formal qualifications.
 - Many followers of social media influencers are young people who may not have high levels of food literacy and therefore lack the ability to make discerning/critical food choices / analyses of food information.
 - People are influenced by what friends like, follow and share.
 - People follow the advice of social media influencers as they wish to achieve a similar body/lifestyle.
 - There may be social pressures to follow a particular food fad.
 - By following and sharing information posted by social media influencers, people are expressing the same values/beliefs.
 - People take on the identity of influencers, as their popularity is seen as valuable.
 - People will be part of the 'family' of the social media influencers (e.g. #LCHFfamily #nocarbarmy).
 - People who follow food fads such as LCHF join the community (e.g. #LCHFfamily) and feel connected with others.
 - Following food fads and sharing is a way of sharing and expressing one's identity (e.g. LCHFfitdude uses the food fad in his Instagram handle; the fad is how he identifies and expresses his identity).
- The link between food, behaviours and effects on emotional and psychological health
 - Social media influencers who promote a 'perfect' lifestyle and body can increase levels of stress and anxiety.
 - Unrealistic body image aspirations can impact a person's psychological health (e.g. #bikinibodyready).
 - Restrictive diets can promote an unhealthy relationship with food.
 - There can be impacts on a person's self-esteem.

- There are negative effects on body image from trying to meet the unrealistic standards portrayed by social media influencers.
- Ill-effects can include craving food and not eating with family, creating feelings of isolation.
- The nutritional efficacy of this contemporary food fad (should connect/link to LCHF diet)
 - The Australian Dietary Guidelines (ADGs)/AGTHE are based on scientific, evidence-based research and do not support restrictive diets.
 - Food fads, trends and diets often reduce or eliminate key food groups in the ADGs/AGTHE.
 - Recommendations by the ADGs/AGTHE are based on an extensive literature review, use the findings from credible/peer-reviewed sources and are supported by international best practice.
 - LCHF restrictive diets do not align with ADGs/AGTHE recommendations to:
 - o consume a wide variety of nutritious foods from the five food groups to promote health and wellbeing – the diet cuts out grain-based foods as well as a range of vegetables and fruit
 - o limit intake of foods containing saturated fat – the diet promotes the consumption of high-fat foods such as bacon and coconut oil
 - o use oils in small amounts – coconut oil is used in the diet
 - o limit the consumption of processed meats – bacon, sausages and other processed meat are promoted in the diet.
 - The diet cannot be maintained over a prolonged period of time.
 - Claims made by influencers promoting the LCHF diet are not from credible sources.
 - Food information should come from reliable/credible sources such as the ADGs/AGTHE, which are backed by scientific, peer-reviewed research.

This question was poorly done.

The following is an example of a high-scoring response.

Contemporary contexts, such as social media, are used to spread food information and promote certain diets and eating patterns. Sites such as Instagram and Facebook provide individuals with healthy recipes, information about new ingredients with supposed health benefits and often promote diets, such as the LCHF diet. Individuals may struggle to discern between credible and false food information, which can promote unhealthy behaviours. For example, social media influencers may post to their followers about fad diets that have made them slimmer, which can cause an individual to develop poor body image. Poor body image negatively impacts an individual's expression of identity and connectedness by creating feelings of low self-esteem and guilt and increasing risk of developing unhealthy eating behaviours such as eating disorders or excessive comfort eating. People may follow the advice of social media influences as they wish to achieve a similar body / lifestyle, and not realise the negative impact this may have on their health. They may feel that they become part of the group that is #LCHFfamily #nocarbarmy and this makes them feel good, and they will share the information with friends found on this media post. They may also find it difficult to follow this diet when eating with friends or family and begin to isolate themselves from these groups by withdrawing from any family or friends' activities involving food. This can reduce connectedness and inability to express their identity to others not involved with the LCHF media posts. Social media can allow people to share food information and promote the health benefits of certain foods to friends, promoting feelings of connectedness and self expression.

Despite this, sites like Instagram are often used by people with no nutritional qualifications to spread food information to thousands of followers, which can potentially be harmful or ineffective in achieving the claims made, as they are often biased and lack scientific evidence. This is like the LCHF diet, which is promoted without referencing statistical evidence, instead encouraging followers to try it as it will result in rapid weight loss. The information may be based on personal experience but often these influencers are paid to promote food information and diets without having used them at all. The Australian Dietary Guidelines and the Australian Guide to Healthy Eating are backed by scientific, peer reviewed research.

This diet in fact has low nutritional efficacy, challenging the Australian Dietary Guidelines by severely restricting carbohydrate-based foods, such as grains, high-fibre fruits and starchy vegetables. These foods are essential for good health and maintaining a healthy weight and are spread across three of the five essential food groups named in the Guidelines and Australian Guide to Healthy Eating. The Australian Dietary Guidelines and Australian Guide to Healthy Eating are based on scientific, evidence-based research and do not support restrictive diets.

The restricted food groups provide the body's main source of energy, as well as fibre, vitamins and antioxidants that all reduce the risk of developing diet-related disease, eg. some cancers and heart disease. The meats that are promoted in the LCHFfitdude2019 picture are sausages, processed meats and bacon and limited consumption of these is recommended by the Australian Dietary Guidelines and the Australian Guide to Healthy Eating, therefore a restrictive diet like LCHF are low in nutritional efficacy and social media should not be relied upon for food information.