

Produce, Provenance & Sourcing

BMGM4005

Week 6: Food Production Methods

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Today:

1. Overview of food production methods
2. Animal husbandry and welfare considerations
3. Food production safety and quality control

Food Production Methods

- Animal-based
- Plant-based



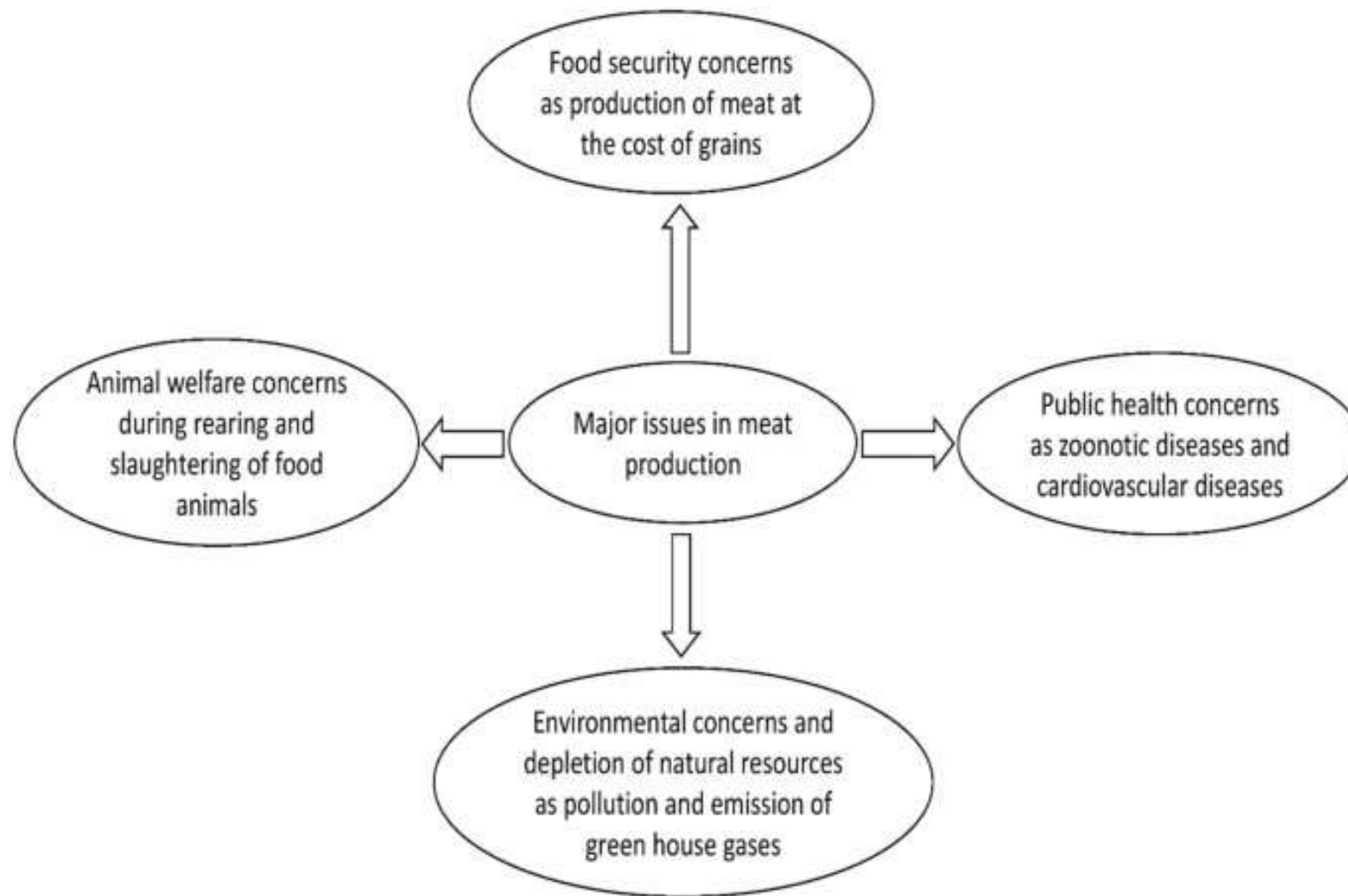


Figure 1. Issues related to the production of animal meat.

(Singh and Sit, 2022)

Animal Welfare Concern – Chickens



- Cage Free
- Free Range
- Organic





CAGE
FREE

VS

FREE
RANGE

VS



A quick summary of Egg Farming

How much indoor space?		
Organic eggs 6 hens per m ²	Free range eggs 9 hens per m ²	Caged eggs 17 hens per m ²
How much outdoor space?		
Organic eggs 4m ² per hen	Free range eggs 4m ² per hen	Caged or barn No outdoor access
Maximum flock size		
Organic eggs 3,000	Free range eggs 16,000	Caged eggs Unlimited

(Robinson, 2019)

Organic Eggs

Organic standards ensure the enclosure is rested between flocks, allowing more time for vegetation to grow back, and gives hens access to the outdoors at 12 weeks - a much younger age than free range systems.

Hens are fed a diet free from genetically modified (GM) ingredients

Not given routine antibiotics, which are often overused in other farming practices

(Robinson, 2019)

Free Range Eggs

Free range birds have unlimited day time access outside and are housed in barns with bedding and perches. Space indoors is set at 9 hens per m² and under the RSPCA-assured and British Lion standards, free range flocks are capped at 16,000.

(Robinson, 2019)

Caged Eggs

The worst practices of battery cages were prohibited by the EU in 2012, but 'enriched' or 'furnished' cages are legal - although there are questions over whether they're really any better. With no limit on the flock size, many retailers no longer stock eggs from caged hens.

(Robinson, 2019)

Ear to the Ground showcase Butler's Organic Egg farm



Activity – Research/Discussion

- Should we buy free range egg, organic eggs or normal (caged) eggs?



Environmental Concern

- Do you like Beef?



Cows and Climate



The Animal Welfare Act 2006

- All farm animals are protected by animal welfare legislation.
- The Animal Welfare Act 2006 is the principal law relating to animal welfare, protecting all vertebrate animals.
- Under the Act, owners and keepers have a duty of care to their animals and must make sure they meet their needs:

*GOV.UK

The Animal Welfare Act 2006

- for a suitable environment and place to live
- for a suitable diet
- to exhibit normal behaviour patterns
- to be housed with, or apart from, other animals (if applicable)
- to be protected from pain, injury, suffering and disease
- The Act prohibits animal cruelty

*GOV.UK

The Animal Welfare Act 2006

- Anyone who does not comply with the Act may:
- be banned from owning animals
- face an unlimited fine
- be sent to prison for up to 5 years

*GOV.UK

Introduction to Animal Husbandry

Summary

Chicken



Turkey



Duck



Geese



Meat



Eggs



Pigeon

Hazard Analysis and Critical Control Point (HACCP)

- How to manage the food hygiene and safety procedures in your food business .
- HACCP is a way of managing food safety hazards.
- Food safety management procedures should be based on HACCP principles.

* Hazard Analysis and Critical Control Point (HACCP) | Food Standards Agency

Hazard Analysis and Critical Control Point (HACCP)

HACCP involves:

- looking closely at what you do in your business, what could go wrong and what risks there are to food safety
- identifying any critical control points the areas a business needs to focus on to ensure those risks are removed or reduced to safe levels
- deciding what action you need to take if something goes wrong
- making sure that your procedures are being followed and are working
- keeping records to show your procedures are working

It is important to have food safety management procedures that are appropriate for the size and scale of your business.

* *Hazard Analysis and Critical Control Point (HACCP) | Food Standards Agency*

Food safety 101 - The journey of food safety from farm to table



Hazard Analysis and Critical Control Point (HACCP)

Explaining hazards

A hazard is something that is dangerous. A food hazard is something that could make food unsafe or unfit to eat. It's important you can identify those stages in your business when hazards could be present so they can be removed or reduced to safe levels.

There are three main types of food safety hazards:

- microbiological - involving harmful bacteria
- chemical - involving chemical contamination
- physical - involving objects getting into food

** Hazard Analysis and Critical Control Point (HACCP) | Food Standards Agency*

Hazard Analysis and Critical Control Point (HACCP)

Food safety management procedures

You must develop your own procedures based on the principles of HACCP.

Businesses must comply with the legal requirements by following good hygiene practice.

HACCP system in meat plants

Meat plants are required to implement and maintain hygiene procedures based on Hazard Analysis and Critical Control Point (HACCP) principles for meat plants.

* Hazard Analysis and Critical Control Point (HACCP) | Food Standards Agency

ACTIVITY

1. What does the UK's population think about food production methods in the UK and beyond?

2. What do you think?

3. Do you believe there is a need for change/s and if so, why and what would the change/s be?

Re-Thinking Food: Transforming Food Systems for People and Planet | Frank Eychorn



Conclusion

Overview of food production methods

Animal husbandry and welfare considerations

Food production safety and quality control



Next week...



- Plant Based Meat
- Trends in food purchasing and their influence on menu compilation
- Factors that drive purchasing decisions, including cost, sustainability, and seasonality

List of Reference

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