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Vlees mevrouw *Nederland* *Vleesland*

A historical analysis of the Dutch meat industry
1960 - 1980

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waarom.

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In the summer of 2022, the Dutch meat sector collectively launched a campaign to, in their own words, shine a positive light on their “demonized” food group.¹ With the slogan *Nederland Vleesland, waar smaken verschillen* (translation: The Netherlands, meat country. Where tastes differ) the campaign aimed to depolarize the continuous debate surrounding meat consumption in the Netherlands. The industry, which has an average annual turnover of around ten billion euros, wanted to do so through the launch of a website, www.nederlandvleesland.nl on which consumers could find information about sustainability, origin and nutrition value of meat and meat products. The campaign’s ultimate goal was to rid the average Dutch meat eating consumer of any possible feelings of guilt about their meat consumption, not necessarily to stimulate meat consumption “We want to depolarize the conversation about meat and give consumers confirmation that they are not on the wrong side if they eat meat”, as summarized by the sector’s spokesperson Dé van de Riet.² This “wrong side” is a view on meat fueled by disinformation spread not only on social media but also by governmental and other public institutes, according to the campaign leaders. They feel frustrated that “it has become normal to say meat is unhealthy”.³

The sector is right about the fact that in the past two to five years, more and more public figures and institutions have openly criticized both meat consumption and (over-) production in the Netherlands. The enormously popular late night TV-show *Zondag met Lubach*, which is sponsored and broadcasted by the publicly funded Dutch foundation for Public Broadcasting (*Nederlandse Publieke Omroep*), has included numerous critical segments on both meat consumption and production within the country. This same broadcasting foundation also funded and broadcasted multiple other critical documentaries and tv-episodes on the Dutch meat industry.⁴ “Meat criticism” also appeared often in opinion pieces published in national newspapers such as *NRC* and *De Volkskrant* and large journalistic platforms such as *De Correspondent*.⁵

Meat criticism has also reached Dutch politics. The more left-leaning (often non-governing) parties often are critical of the meat production and consumption in the Netherlands and write about wishing to restrict the meat industry in their election programs.⁶ Executing government officials however are a lot more hesitant when it comes to restrictions related to the meat industry. In early 2022, Dutch animal rights organization *WakkerDier* broke the news that the former secretary for agriculture, nature and food quality Carola Schouten consciously removed an advice to eat less meat from a governmental climate campaign for Dutch citizens “Everybody does something” (*Iedereen*

¹ Direct quote: “*We willen vlees uit het verdomhoekje halen*” source: Martine Kamsma, “Campagne Nederland Vleesland moet vleeseters een beter gevoel geven,” *NRC Handelsblad*, August 31, 2022, <https://www.nrc.nl/nieuws/2022/08/31/vleeslobby-wil-vlees-depolariseren-met-nieuwe-campagne-a4140398>

² Kamsma, “Campagne Nederland Vleesland.”

³ Ibid.

⁴ Popular Dutch tv-show made episodes on the ingredients of meat ingredients, *VPRO tegenlicht* made a critical documentary on the food industry in the Netherlands, see <https://www.npostart.nl/zoeken?term=vlees>

⁵ See for example, Jelmer Mommers and Sabine Grootendorst, “Nederland telt 11,4 miljoen varkens, maar waar zijn ze?,” *De Correspondent*, accessed on February 28, 2023, <https://decorrespondent.nl/13841/nederland-telt-11-4-miljoen-varkens-maar-waar-zijn-ze/1525402769-8787739e> or Jurriën Hamer, “Onze band met vlees gaat veel verder dan alleen smaak,” *De Volkskrant*, published on February 28, 2022. <https://www.volkskrant.nl/columns-opinie/onze-band-met-vlees-gaat-veel-verder-dan-alleen-de-smaak~b0c7f738/>

⁶ Tom van der Lee, “Vleestax,” *Groenlinks*, accessed on February 26, 2023. <https://groenlinks.nl/standpunten/klimaat/vleestax>

doet iets) in 2019.⁷ Schouten ordered to have the advice to eat less meat removed because she thought the advice was “too negative”. Controversy in politics surrounding the topic of meat consumption continued when in early 2022, Schouten’s successor secretarv Staghouwer introduced the possibility of introducing a “meat tax” (*Vleestaks*) to motivate Dutch consumers to reduce their meat consumption.⁸ The average meat consumption per Dutch citizen has remained quite stable during the past twenty years, and even rose slightly in 2018. An average Dutch citizen consumes around 100 grams of meat a day on average, which is considerably more than the 70 grams maximum the Dutch nutrition institute prescribes for an average adult.⁹ Although the Dutch meat consumption thus could be a lot lower, Staghouwer’s proposal was met with a lot of resistance. The criticism ranged from the fact that it is not the government’s job to interfere with people’s diets, to that meat was now unrightfully the focus of a climate campaign.

In short, meat consumption and -production in the Netherlands have been the subject of debate in the last few years. And that continuous attention, all the way up to the Dutch government is remarkable when taking into account that it is a food product that is being talked about, one that was seen as a luxury product as short as a little under a century ago. How is it possible that the meat industry has grown to be such an important topic within Dutch society, in such a relatively small amount of time? With this thesis, I want to help answer that question. In this thesis, I sketch out the rise of the Dutch meat industry in the second half of the twentieth century, through an analysis of two institutes that were part of that upcoming industry: a scientific research group and a meat lobby organization. Through analysis of these two groups, I aim to find out how the upcoming meat industry of the 1960’s and 1970’s managed to put meat on the Dutch market.

Research question

This thesis aims to answer the following research question: how did the Dutch meat industry manage to successfully put meat in the market in the period between 1960 and 1980? I will formulate an answer to this research question in three chapters. Each chapter focusses on a different aspect of the Dutch meat industry.

The first chapter covers the development of Dutch agricultural companies and meat consumption. Between the early 1950’s and the late 1980’s, the Dutch meat industry went through a period of large growth. With the help of statistics and historical background information, I sketch an image of when and how this growth took place. I also take a look at the development of meat consumption between 1960 and 1980. With this chapter, I aim to sketch an outline of the recent history of the Dutch meat industry and represent how exceptional the growth of the industry was historically.

In the second chapter, the focus will be on scientific research done about meat between 1960 and 1980. In the twentieth century, nutrition related research became continuously more important and influential. In the 1950’s, a research group for meat and

⁷ “Wakker Dier: Schouten hield ‘minder vlees’-boodschap uit campagne,” NOS nieuws, published August 31, 2022, <https://nos.nl/artikel/2442685-wakker-dier-schouten-hield-minder-vlees-boodschap-uit-campagne>.

For more information on the campaign, see: <https://www.iedereendoetwat.nl/over-de-campagne>

⁸ “Ruime kamermeerderheid tegen vleestaks,” NOS Nieuws, published March 30, 2022,

<https://nos.nl/artikel/2423204-ruime-kamermeerderheid-tegen-vleestaks-coalitie-verdeeld>

⁹ Wageningen University & Research, “Dossier Vleesconsumptie,” last accessed February 26 2022.

<https://www.wur.nl/nl/Dossiers/dossier/Vleesconsumptie.htm>

meat product was established, as part of the large and influential Dutch Center for Applied Scientific Research (in Dutch: TNO). The research done by this group reflects a few things important for this thesis: what were important research subjects? What was the relationship between the meat industry and the meat related research? Was meat seen as a nutritional food product? Who were members of this research group? Answers to these questions give an insight into the background of the meat industry and sketch out an idea of what was and what was not important for the industry.

The third chapter takes on yet another perspective. This chapter aims to sketch out how the Dutch meat industry presented their products towards the general public: the Dutch consumer. From 1961 onwards, a foundation named the Educational bureau for meat, meat products and meat preserves was responsible for the publication of thousands of meat related advertisements. This foundation was founded by and paid for by an very powerful institute active within the meat industry, and therefore accurately reflects how the meat industry wanted the consumer to see their product and what methods they used to achieve this goal.

Academic point of departure

The main subject of this thesis is the Dutch meat industry between 1960 and 1980. The way I set up my research makes that this subject relates to three fields of historical academic research: historical nutrition research, Dutch agricultural history and research on the relationship between science and industries. To make the point of departure of my thesis clear, I want to give a short overview of the works I used to form the fundamental background knowledge for this research.

When it comes to nutrition history about the Netherlands, two names cannot go unmentioned. The first one being Adel den Hartog, who has published many works on food history during his time as a member of the Human nutrition and health research group of Wageningen University. His posthumously published book *What is edible?* played the largest role for this research. In a chapter called “Meat and nutrition science”, den Hartog describes how already in the nineteenth century, the concept of meat as an important supplier of protein necessary for the human body was born. Another well-known Dutch food historian is Anneke van Otterloo. Her in 1990 published work “Food and appetite in the Netherlands – 1840-1990” continues to influence the field up until today. However, for my thesis I made more use of her chapters called *Nutrition (Voeding)* as published in “Technique in the Netherlands in the twentieth century”. In these chapters, Otterloo in great detail describes the development of Dutch eating habits in the twentieth century, including the role that meat played in the development of these diets.

More recently, Dutch historian Jon Verriet published his PhD thesis about nutrition and exercise in the Netherlands between 1940 and 2020. In his work, he (amongst other things) analyses public discourse on diet and nutrition in twentieth century the Netherlands, which I used as a background frame for my research on the meat advertisements.

My first chapter focusses on the developments within the Dutch meat industry in the twentieth century. The works of Jan Bieleman, agricultural historian, Floor Haalboom, historian of science and Peter Koolmees, professor in veterinary medicine, functioned as frameworks for this chapter. Bieleman has published extensively on the development of Dutch farmlands, from as early as the 1600’s onwards. For my research, I often used the information in Bieleman’s chapters on Dutch agriculture as published in “Technique in the Netherlands in the twentieth century”. In Haalboom’s ongoing research project, she

investigates the influence of the invention of fodder on the development of the Dutch agricultural landscape in the twentieth century. Koolmees published a book on the development of the Dutch meat industry between the late nineteenth and the twentieth century.

The second chapter will focus on scientific research about meat. Most of that research is based on primary sources. The largest part of secondary literature was supplied by the Dutch institute for Applied Scientific Research (in Dutch TNO, hereafter will be referred to by TNO) itself. Both the publications about their own meat related research and the book they published in honor of their eightieth anniversary “Tachtig jaar TNO” where starting points for my research.

Research methods

In the past few years, research methods and the reproducibility of research have been getting more attention within academia. Debates about the so called “crisis of reproducibility” started out in the “hard sciences” but lately have also been getting attention within the humanities. Questions were raised on how historians can approach reproducibility and how a researcher’s methods influence the outcome of a research project. These questions interest me very much and I therefore want to dedicate the next few paragraphs explaining my research methods to offer some transparency on that topic.

Collecting and analyzing data

The first chapter of this thesis is largely based on data from the Dutch bureau for statistics, Statistics Netherlands (CBS). These data are publicly accessible through CBS’ online database, www.statline.nl. I included the full dataset as an addendum to this thesis.

Some of the statistics I used are directly downloaded from the website. However, the database did not contain the precise numbers I required for my thesis. Therefore, I made some calculations myself. For example, I calculated the development of the average amount of cows kept at Dutch farms between 1960 and 1980, by dividing the total amount of cows by the total amount of farms who reported to keep cows as reported to CBS. By including my dataset in this thesis, I aim to have made clear how I acquired the data I used for the graphs in the first chapter of this thesis.

Archives of the research group for meat and meat products (TNO)

To answer my second research question, on what meat related research looked like, I used material from the archives of the research group for meat and meat products, which was part of the Dutch institute for Applied Scientific Research (TNO in Dutch). The archives of TNO are kept in the National Archives of the Netherlands, situated in The Hague.

The research group archival material forms a relatively young archive, it contains material from the 1960’s throughout the 1980’s. Due to this and the fact that the archives contain personal information such as name and addresses of people who are (possibly) still alive, the archives of the research group are not fully public, or *beperkt openbaar* in Dutch. As a consequence, I had to ask for permission to view the archive material. Luckily, I was allowed to do so. However, due to the privacy regulations, I was not allowed to take pictures of any the archival material. Instead, I had to manually transcribe all of the archive material I was researching.

It was not feasible to transcribe every document I looked at, due to the size of the archive. The research group for meat and meat products was quite a large research group. It

existed of around ten meat related research institutes. All of these institutes reported to the research group for meat and meat products about their research through (semi-) annual and quarterly reports, letters and research reports. All of these documents ended up in the group's archives, together with their own reports and research proposals. All together, these documents filled fifteen archive boxes, with each box containing three (very full) folders. Due to the size of the archive, I had to make choices about what and, maybe more importantly, what not take into account for my research. This required me to make some research decisions I want to share here.

My focus, as discussed earlier in this introduction, was on nutrition related research. Therefore, while browsing through the archives, I continuously looked for research proposals and descriptions containing concepts such as protein, iron, vitamins, chemical composition, nutritious, nutrition value, health(y), acids, calories or meat quality. When I came across archival material containing any of these concepts, I made sure to read both the preceding and succeeding paragraphs, to understand more about the context of the proposal. I would then transcribe the research discussed and all things I deemed relevant to the research into a word document, with both the title and date of the document and the box and folder I found the document in. Since I wanted to put into perspective how much attention the research group paid to nutrition in proportion to the rest of their research, I also focused on the annual reports of the group as a whole and transcribed their yearly research agenda's, if I could find them in the folders. Lastly, I looked for reoccurring research subjects while browsing the archives. I did so by browsing through the archives as a whole and see if certain subjects kept coming up throughout multiple years. If one subject reoccurred four or five times, I put it on a list I kept in one of my transcription word documents.

What did not help during the whole research process was the fact that the archive material was not organized very well. The National Archives provided me with an archive index. Every archive box had a title, such as "Box 57: Commissie researchgroup voor Vlees en Vleeswaren TNO, 1971-1973, but this title did often not correspond with its contents. Box 57 for example would contain letters written or received in 1975. Therefore, I put extra attention to writing down the year the document I was looking at was published, to prevent misunderstandings in my later analysis. Another struggle was the fact that the archive boxes and corresponding folders were not organized in the same way for every year. Each three of the folders in each archive box seemed to have been filled in a random order, making a clear year by year comparison of the reports and progress of research quite difficult. What made it extra difficult is that most institutes did not only publish an annual report, but also semi-annual and quarterly reports, of which most of them were not sorted in the correct order. To tackle this problem, I made sure to look for the complete annual reports of the research group for meat and meat product as a whole in each folder to use as a guideline in my research.

Advertisements

For my third chapter, I analyzed around a thousand advertisements as published between 1960 and 1980 by the foundation Educational bureau for meat, meat products and canned meat. In the beginning of that chapter I explain in detail how I found this list of advertisements. Here, I just want to shortly describe how I came up with my method for analysis. Just as was the case with the research related research, I started looking for nutrition related themes in the advertisements. A little while into my analysis, I started to

figure out other reoccurring themes used in the advertisements, such as taste, price and variability. I included these in the columns of my database and every time an advertisement fit one of these themes, I made that clear in the database. I also included whether or not the advertisement contained an image and the name and publication date of the newspaper the advertisement was published in.

Chapter 1: On the farms

“Vlees hoort bij Nederland”

- campaign slogan *Nederland Vleesland*

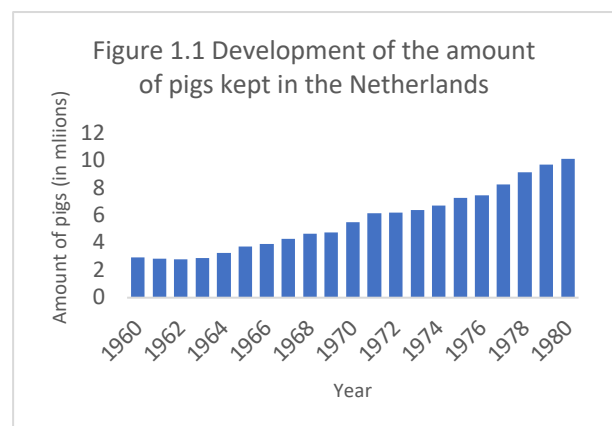
To gain an understanding of the Dutch meat industry in the second half of the twentieth century, I start this research with a short overview of the most important developments within the industry that happened between 1950 and 1990. By the end of the twentieth century, the Dutch meat industry had grown into a multi-billion euro industry, in which many different actors were active: from farmers, slaughterhouses and butchers to research institutes such as TNO. This research is too limited to discuss all of these parties separately. To still create an accurate general impression of the industry, statistics offer a solution. The public data website of the Dutch agency for statistics (Statistics Netherlands, or in Dutch *Centraal Bureau voor de Statistiek*), www.statline.nl, contains a dataset named “agriculture, from 1851 onwards” which contains historical data about the Dutch agricultural sector. In the coming paragraphs, parts of this and other datasets will be discussed and put into historical context.

1.1 Cows and calves kept for consumption

1.1.1 Livestock populations in the Netherlands, 1960-1980

A determining factor of the size of the meat industry of a country is the size of its livestock population.¹⁰ From the nineteenth century onwards, Dutch farmers who met certain requirements concerning the size of their farm and volume of their livestock were obliged to partake in agricultural censuses.¹¹ Based on the data derived from those censuses, the Netherlands housed a little under 3 million pigs (2,95 to be a more exact) and around 360.000 meat-cows and -calves in 1960. To put that number into perspective: the Netherlands had a population of 11 million in that same year, making the pig-to-human ratio 1 to 4 and the cattle-to-human ratio 1 to 33. Livestock animals were kept at farms spread throughout the country. In 1960 200.000 farmers reported to keep cows, 146.000 reported to keep pigs. On average, this meant that one farmer kept two cows or calves, and/or around twenty pigs for meat production purposes.¹²

As time progressed, some interesting developments took place within the Dutch meat industry. Take the development of the amount of pigs kept within the country for example. As becomes visible from the graph on the right, the pig population went through a period of rapid growth. By 1980, more than 10 million pigs inhabited the Netherlands, making the pig population over 3,5 times as large as it had been



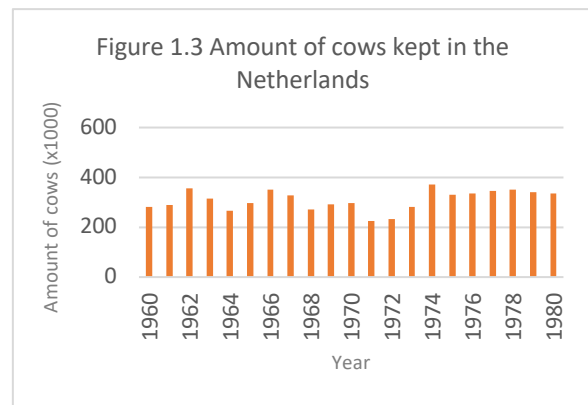
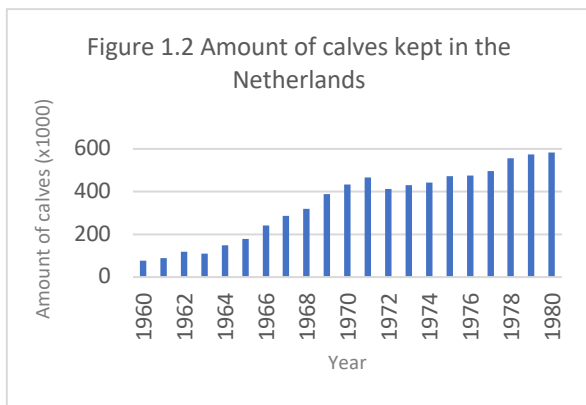
¹⁰ Throughout this entire thesis, the term livestock population refers to animals that were kept for meat production. Dutch farms also kept a lot of cows and calves for milk production, these animals are excluded from this research.

¹¹ “Landbouw; vanaf 1851”, Statistics Netherlands, last modified April 22, 2022, <https://opendata.cbs.nl/statline/#/CBS/nl/dataset/71904ned/line?ts=1663771681816>

¹² CBS is unclear about whether or not farms who kept both cattle and pigs were counted twice in the agricultural censuses.

in 1960. Compared to the Dutch population this meant that in 1980, there were seven pigs for every ten Dutch inhabitants.

Another livestock population that went through a similar period of explosive growth were calves kept for meat production. In 1960, 78.000 of these so called “meat calves” were reported to populate the country. During the twenty years that followed, this population multiplied by seven, with 582.000 calves reported in 1980. The size of the fully grown cow population on the other hand remained quite stable throughout both the 1960s and 1970s. In that period, as is visible in the graph pictured below, the cow population fluctuated between 200.000 and 400.000 animals. However, due to the large influx of meat calves, the cattle-to-human ratio nonetheless increased, from 1 to 33 in 1960 to 1 to 14 in 1980.



Overall, the Dutch livestock population rapidly grew in the twenty years between 1960 and 1980. This large livestock population growth did not lead to an increase of the amount of farms established in the Netherlands in the same period. In fact, an opposite development can be observed in the statistics. In 1960, as was stated before, over 300.000 Dutch companies reported to keep livestock. In 1980, only a little over 120.000 of them were left.

In what ways did that influence the numbers on the amount of animals kept at each farm? The table below represents the average amount of animals kept on one farm, in the period 1960-1980. From looking at these numbers alone, it becomes clear that Dutch farms went through a period of heavy scale expansion. The average amount of pigs held by one farm, multiplied by more than twelve, and the amount of cattle (both cows and calves) by a little over five.

<i>Year</i>	Farms with cattle livestock (incl. calves) x1000	Total amount of cattle in the Netherlands (incl. calves) x1000	Average amount of cattle per farm	Farms with pigs x1000	Total amount of pigs in the Netherlands x1000	Average amount of pigs per farm
1960	200	359	2	146	2955	20
1965	174	478	3	109	3752	34
1970	131	732	6	76	5533	73
1975	108	802	7	55	7279	132
1980	87	918	11	42	10138	241

1.1.2 Exceptional growth

From all above statistics, it can be concluded that between 1960 and 1980, the supply side of the Dutch meat industry (meaning, farmers keeping the livestock used for slaughtering and consumption) went through a period of scale expansion. As far as the statistics provided by Statistic Netherlands show, this period of growth has no historic precedent. Between 1900 and 1960 the size of the pig population would continuously fluctuate between one and 2,5 million, with a peak of 2,7 million in 1932. Statistics Netherlands does not provide historical data on the cattle population of the country before 1960. However, taking into account sources on Dutch agricultural history, it is probable that the large calve population growth as took place from 1960 onwards has no historic precedent.¹³ When comparing the 1960-1980 statistics to more present data, it is clear that the growth really was of historical. Both the pig and calve population never again went through a growth the size it was in the period 1960-1980. Only the population of cows grew faster after 1980 than it ever did before.

1.1.3 The force of fodder

The enormous expansion of the livestock population and average Dutch farms was made possible by all sorts of agricultural developments, technical inventions and external factors. According to historian of science Floor Haalboom the introduction of chemically designed animal feed on Dutch farms was one of the main elements that made the expansion of the meat industry possible.¹⁴ In her research she describes that in the first half of the twentieth century, Dutch livestock farms looked a lot different than they did sixty years later. Early twentieth century farms operated on a small scale, were much more self-sufficient and varied in their daily tasks and operations. Haalboom illustrates this by quoting research by historian of Dutch agriculture Jan Bieleman. Bieleman estimated that an average early twentieth century farm in Dutch northern provinces kept around four cows, five pigs and eighteen hens. Farmers would usually feed their livestock with crops they grew on their own land and hens and chickens fed themselves with what they could find while scurrying around on the farm.¹⁵ When it came to meat production and consumption, farmers would usually slaughter their own animals. People living in the city would find their ways to cattle markets, where they could buy animals and have them slaughtered at private slaughterhouses, which there were many of in early twentieth-century the Netherlands.¹⁶ In the course of the twentieth century this “traditional way” of farming and meat production started to disappear slowly.

According to Haalboom, the invention and introduction of animal feed, also often referred to as fodder, played a large role in the making possible of the changes happening in the meat industry in the second half of the twentieth century. Fodder was invented by

¹³ See for example work the chapter on agricultural by Jan Bieleman in *Techniek in Nederland in de twintigste eeuw. Deel 3. Landbouw, voeding*, edited J.W. Schot, H.W. Lintsen, A. Rip en A.A. Albert de la Bruhèze eds. Techniek

¹⁴ Haalboom’s research is ongoing (she received a VENI-scholarship in 2020) and is yet to be published in a scientific journal. Therefore I use the popular publication of her research on Dutch journalistic platform *de Correspondent* in this thesis.

¹⁵ Floor Haalboom, “Deze uitvinding gaf de bio-industrie vleugels (en maakt de aarde stuk)”, *De Correspondent*, January 28, 2022. <https://decorrespondent.nl/13075/deze-uitvinding-gaf-de-bio-industrie-vleugels-en-maakt-de-aarde-stuk/38882002008300-a5b5d709>.

¹⁶ Peter A. Koolmees “From stable to table. The development of the meat industry in The Netherlands, 1850-1990,” in *Exploring the food chain. Food production and food processing in Western Europe, 1850-1990*, edited by Yves Sygers, Jan Bieleman and Erik Buys (Turnhout: Brepols Publishers, 2009), 125-127.

scientists after the First World War. They found out that a chemically balanced out diet, made up of grains, oilseeds, animal protein and additives, could make livestock animals grow faster. Another benefit was that fodder, in comparison to the food the farmers had to grow themselves, was less expensive. Haalboom discusses how fodder made its real breakthrough in the Netherlands during the second world war, a little over thirty years after its invention. As a consequence of the war, the Netherlands was unable to import many of the raw materials used to produce food. To solve this problem, the government obliged Dutch livestock farmers to switch to crop farming, so enough food could be produced within the country. On the few livestock farms that remained, the livestock animals were fed with the chemically designed fodder.

After the war ended, Dutch farmers started to see economic advantages in the use of fodder. Because they could buy the animal food from external parties, they could use all of their own farmland to keep livestock, and thus upscale their business. Haalboom does point out that there was one exception, concerning the farmers who kept cattle. Cows could not be fed with just fodder, but also needed certain crops such as maize and grass as part of their diets. Cattle farmers therefore still needed to use some of their land to grow these crops. This could be an explanation for the relative small cow population growth, as illustrated above.

1.1.4 Other agricultural developments

The invention and introduction of fodder changed Dutch livestock agriculture for good. However, not only the way livestock animals were fed changed. Many other elements of the Dutch meat industry changed in the second half of the twentieth century. Peter Koolmees, professor of veterinary medicine in historical and societal context, published extensively about the emergence and development of the Dutch meat industry. In one of his works he summarizes the developments within the Dutch meat industry in the second half of the twentieth century as follows: “Specialization, mechanization, improvement of live-stock and a broader scientific basis characterized the development of animal production. Primary production at enterprise level shifted to a production column, which involved a broad and complex network of processing and supplying industry and services. The chain from producer to consumer now referred to as “from farm to fork” or “from stable to table” became longer and more complex”.¹⁷ The already mentioned Jan Bieleman describes these developments by stating that in the second half of the twentieth century, old-fashion farming turned into agri-business.¹⁸

The specialization of the meat industry led to new kinds of companies within the industry. For example the companies specializing in the production and transportation of fodder, agricultural service supply agencies and for the supply of more animals. Many things that used to be done within a farm, where now being outsourced to external companies.¹⁹ On other sides of the industry, new organizations also started to arise. In 1954, the so called “research group for meat and meat products” was established. This independent branch of the Dutch institute for Applied Scientific Research (TNO) was part of the nutrition research department of the organization (often referred to as the nutrition organization) and was responsible for research into all things meat and meat product related: developing effective

¹⁷ Koolmees, “From stable to table,” 125-127

¹⁸ Jan Bieleman, “Landbouw,” in *Techniek in Nederland in de twintigste eeuw. Deel 3. Landbouw, voeding*, edited by J.W. Schot, H.W. Lintsen, A. Rip en A.A. Albert de la Bruhèze (Zutphen: Walburg Pers, 2000), 226-229.

¹⁹ Bieleman, “Landbouw,” 228.

and hygienic methods for slaughtering animals and packaging, shipping and selling meat. Around the same time, the product board for cattle and meat (*Productschap voor Vee en Vlee*) was established. Product boards were governing bodies for Dutch industries that operated in a production column. On the one hand they functioned as managers of the industry: product boards had the right to tax the organizations active in the industry and set up rules and regulations. On the other hand, they functioned as advocacy group for their industry and lobbied with local and national governments.

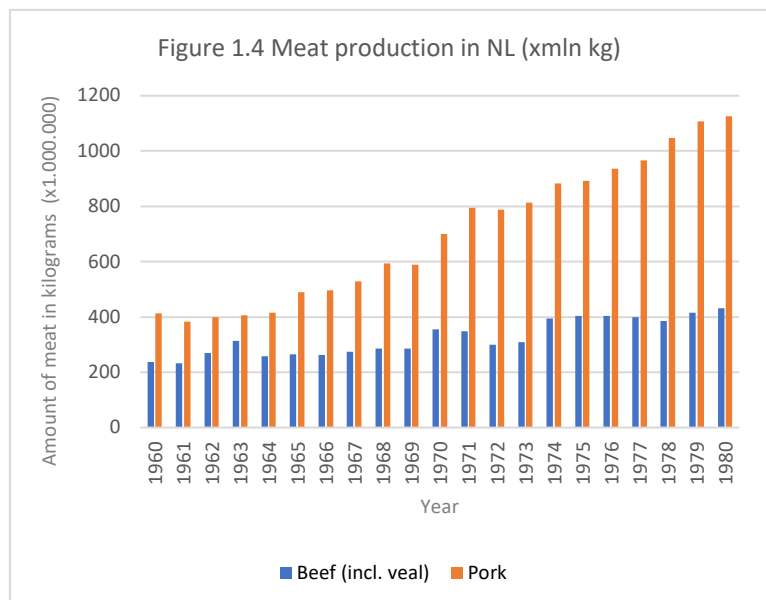
Not only did new institutions enter the industry, already existing ones went through changes in the 1960's. In the early 1960's, public slaughterhouses sponsored by local governments were the most popular places for meat to be slaughtered. These slaughterhouses had been established by local governments to keep an eye on the quality of the meat and to see if hygienic rules and regulations were being followed. However, in the second half of the 1960's private slaughterhouses started to take over in popularity. Many public slaughterhouses were not able to keep up with renewed hygiene protocols introduced to ensure safe export of meat to EU member states. Public governments were hesitant to invest more money in 'their' public slaughterhouses, because they saw the quick developments of private slaughterhouses and therefore many closed down.²⁰

1.2 Meat for everybody: the rise of meat production and -consumption in the twentieth century

1.2.1 Meat production (1960-1980)

A not very surprising development that happened along with the growing meat industry and livestock population in the Netherlands, was an increase of the meat production within the country.

The statistics as provided by Statistics Netherlands and shown in the graph on the right clearly reflect this. In twenty years, the beef (including veal) production almost doubled; the pork production increased even faster, with the amount of pork produced on an annual basis nearly tripling between 1960 and 1980.



On their own, these are not the most surprising statistics. Rather, these numbers can be interpreted as a logical consequence of the statistics and historical context as discussed above. However, the size of the production growth becomes more interesting when other factors are taken into account.

²⁰ Koolmees, "From table to stable," 125-128.

1.2.2 Meat consumption (1960-1980)

Throughout the largest part of (modern) history, meat often was not part of the average Western-European man or woman’s diet. Due to its high price, it only was available to those better off financially.²¹ In the Netherlands, it took until the late nineteenth century for meat to slowly take a place in the diets of members of the lower class. This could happen due to an “acceleration in the industrialization of food”, as described by agricultural and food historian Anneke van Otterloo.²² She describes how industrialization caused the food supply to broaden, meaning that a more varied range of (meat)products became available. According to van Otterloo, it was this development that made it possible for the Dutch lower class to start incorporating meat in their meals. Not yet in large quantities on a daily basis, but in small portions and mostly on special occasions, such as Sun- and holidays.

Throughout the rest of the twentieth century, commercialization and industrialization continued to influence the meat industry and meat consumption in the Netherlands. Next to new, more diverse products entering the market, another development influenced average consumption:

personal incomes were on the rise. Especially from the 1960’s onwards, average incomes went through a period of large growth, leaving Dutch citizens with more money to spend on food. This made meat and meat products even more easily accessible for the Dutch population.²³ The table on the right shows the average amount of meat consumed per Dutch citizen between 1960 and 1980, in kilograms.²⁴ When looking at these numbers, it is clear that both development as discussed above continued to influence Dutch

<i>Year</i>	Average beef and veal consumption in kilograms	Average pork consumption in kilograms
1960	18,4	23,8
1965	18,6	26,1
1970	19,7	26,5
1975	23,2	35,3
1980	22,2	39,5

consumption habits throughout the entire twentieth century. Between 1960 and 1980, both the average beef and pork consumption increased, although the latter increased much more substantially; the beef consumption rose with 20%, the pork consumption almost doubled.

How do these numbers relate to the before discussed production numbers? From the previous paragraphs it became clear that between 1960 and 1980 the annual pork production in the Netherlands nearly tripled, from 413 million kilograms produced annually in 1960 to 1,1 billion kilograms produced in 1980. As became clear from the last paragraph, during that same period the average pork consumption doubled, from 272 million kilograms in 1960 to 573 million in 1980. The graph as pictured in figure xx represents the developments of both the average pork consumption (in orange) and the average pork production (in blue). Ever since the early 1950’s, the annual pork production by far transcended the annual pork consumption. By 1970, the Dutch meat industry produced more than twice as much pork as got consumed on an annual basis. A similar difference

²¹ Of course, there are exceptions here. For a long time, people kept a small amount of livestock on their own grounds. This tradition largely disappeared out of the Netherlands towards the end of the 1950’s.

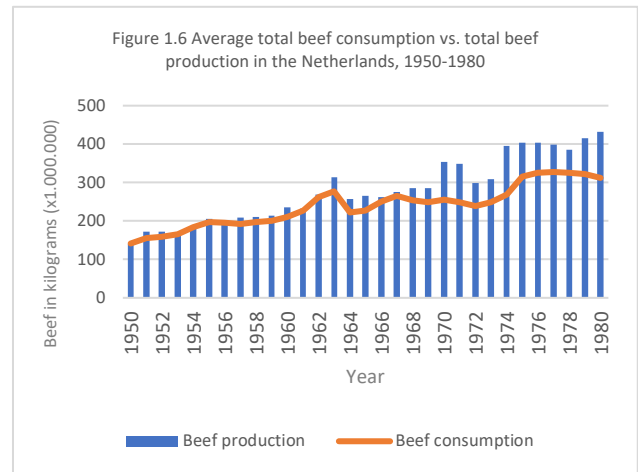
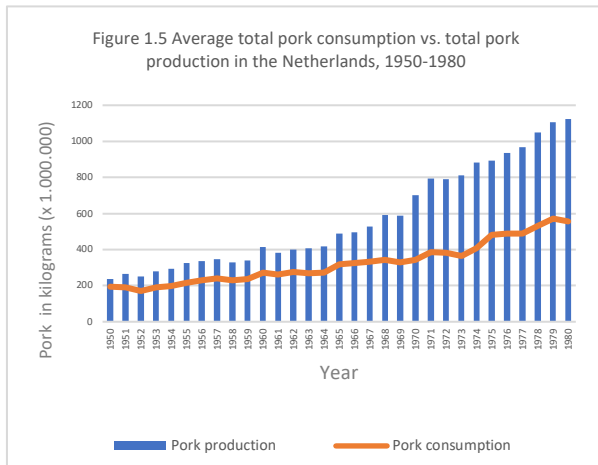
²² Anneke van Otterloo “Voeding,” in. *Techniek in Nederland in de twintigste eeuw. Deel 3. Landbouw, voeding*, edited by J.W. Schot, H.W. Lintsen, A. Rip en A.A. Albert de la Bruhèze (Zutphen: Walburg Pers, 2000), 226-229.

²² Bieleman, “Landbouw,” 255-257.

²³ Koolmees, “From stable to table,” 118-119

²⁴ These numbers include the so called “carcass weight” (*karkasgewicht*) of the animals. The actual amount that was consumed is about half of the amount as stated in the table.

between consumption and production can be detected when analyzing beef consumption and production. The graph on the right, which depicts national beef production in blue and national beef consumption in orange, illustrates that although the difference was much smaller, still much more beef was produced within the country than was consumed annually.



1.2.3 Nutrition guidelines

To put into perspective how enormous the production of the Dutch meat industry was becoming between 1960 and 1980, I want to add one more factor: the diet recommendations of the Dutch center for nutrition (*Het Voedingscentrum*). Anno 2022, the Dutch nutrition institute prescribes Dutch citizens to not eat more than 300 grams of red meat (that includes pork and beef, but also goat and sheep) per week. This comes down to a little under 16 kilograms of total recommended meat consumption per citizen per year.

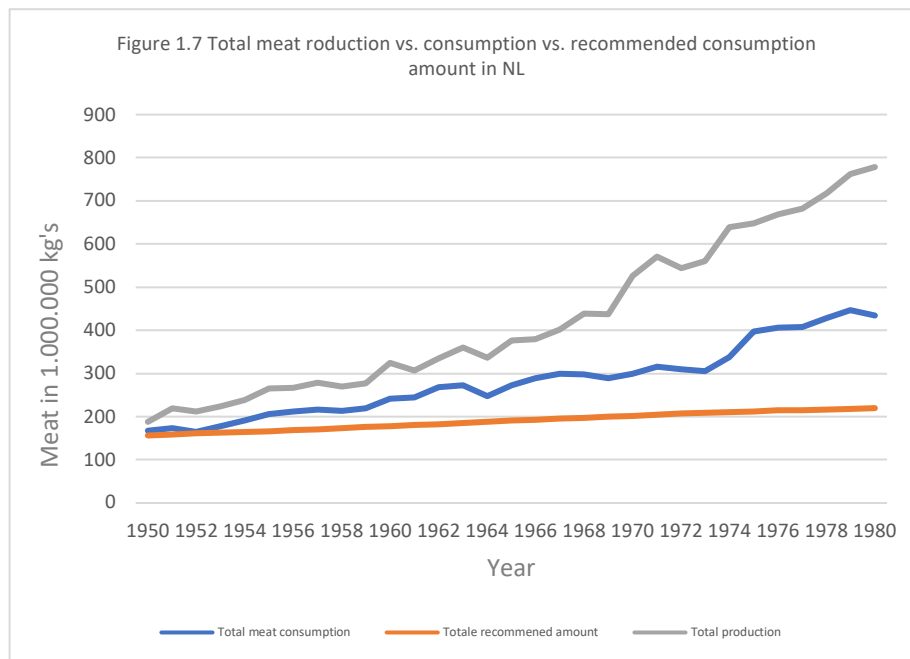
It is interesting to use this recommendation to the size and growth of both the meat production and consumption in to perspective. The graph below visualizes this comparison. The orange line represents the amount of meat the Dutch population as a whole is recommended to consume, taking into account yearly population growth.²⁵ The blue line, called “total consumption of both pork and beef (including veal) represents the average amount of meat consumed by all Dutch citizens. Lastly, the grey line represents the total production of both pork and beef (including veal).

This graph makes clear that already since the early years of the 1950’s, much more meat was produced than was consumed, as already became clear from the last paragraphs. However, this graph also shows that around that same time, the average meat consumption was already higher than what the Dutch population required on a nutritional level. Ever since the early 1950’s, the Dutch population thus has been “overconsuming” meat.

The gap between Dutch meat production and the average nutrition recommendation is even larger than the gap between consumption and recommendation and exponentially gets wider and wider during the twentieth century. This gap illustrates the development of redundancy within the Dutch meat industry of the twentieth century. The industry kept

²⁵ It has to be noted that in the population numbers, also babies and young children are counted, who did not eat the average amount of meat on a yearly basis. It is therefore probable that the actual consumption numbers were a lower, the same goes for the amount of meat the Dutch could eat according to the nutrition centre guidelines.

growing, but it was not directly in service of the Dutch consumer, since their needs were already met.



I do want to disclaim that it is of course not historically accurate to use a nutrition guideline from 2022 to judge the average meat consumption or production of the 1960's. Sentiments and scientific ideas about how much you had to eat of a certain food in order to become or stay healthy changed throughout time. Two German physiologists in the late nineteenth century for example had estimated that an average, working adult man needed around 150 grams of protein per day to stay strong and healthy. Based on these beliefs, a German World War One soldier was prescribed to eat around 375 grams of meat per day, which translated to around 136 kilograms per year.²⁶ Unfortunately, there is no continuous historical data about the nutrition center guidelines for meat consumption between 1960 and 1980, making completely accurate historical comparison impossible. However, by using the 2022 guidelines to reflect on historical consumption or production, it is illustrated how unnecessarily large both the meat consumption and production were becoming and, even more important, still are: although the meat industry growth between 1960 and 1980 remained unparalleled, the meat industry has known no period of definite decline after the 1980's.

1.2.4 Export

One important reason for the Dutch meat industry to keep on producing as much meat as they did, was because they could sell it to other countries. The export of meat has as of yet remained undiscussed, but since it has been and still is of great importance for the Dutch

²⁶ Adel P. Den Hartog, *Wat is eetbaar? Een reis door de wereld van voedseltaboes en eetculturen*, edited by Annemarie de Knecht-van Eekelen and Jon Verriet (Wageningen: Wageningen Academic Publishers, 2022), 74.

meat industry, mostly due to its size.²⁷ Ever since the late nineteenth century, the Netherlands had been a popular exporter of meat and meat products. During the 1880's slaughterhouses that specialized in producing meat meant for export were established in the country. Up until that time, the Netherlands was also active in the meat related export business, but it had always been live animals that were shipped to neighboring countries such as Germany and England. At the end of the nineteenth century, shipping live animals developed into either already slaughtered animals being exported, or even already "finished" meat products. This development made an enormous export growth possible, because a lot of space was freed up.²⁸ Between 1890 and 1906, the annual meat export from the Netherlands grew from 17,5 to 57 million. This exponential growth continued and by 1915 over 100 million kilos of meat were exported to neighboring countries and beyond. The world wars put a short halt to the continuously growing meat export, but from the 1960's onwards it continued in full force again.²⁹ Anno 2022, a little under 90% of the meat industry revenue comes is export based.

1.3 Conclusion

In the past chapter I have illustrated multiple developments of the Dutch meat industry in the second part of the twentieth century. Before moving on to the next chapter on meat research, I want to draw some conclusions on the contents of this chapter.

This chapter has shown that between 1960 and 1980, the Dutch meat industry went through a period of transformation. Take for example the developments of the livestock populations. The introduction of chemically designed fodder on farms left farmers with much more spare agricultural ground. Since they did not have to grow crops to feed their livestock, they could use a much larger part of their ground to keep animals. This, naturally, led to an overall increase of the livestock populations all across the country. Farms were growing, but the amount of farms in the country were declining. As a result of both of these developments, the average farm had a much larger livestock population at the end of the 1980's than they had in the early years of the 1960's.

Due to the incline of livestock animals kept for the purpose of meat production, the meat production within the country could rise, and the average meat consumption rose along with it. From the start of the twentieth century until the 1980's, meat went from being a luxury product only to be enjoyed by the "happy few" or on sun- or holidays, to being a staple part of the Dutch daily diet.

The overall growth of the livestock populations naturally lead to growth of the industry as a whole. And, opposite to the amount of farms declining, the amount of parties active within the industry increased. With the emergence of new institutes such as specialized slaughterhouses, transport companies and meat related research departments, the meat industry was able to specialize and, as a result, grow even further. As historian of agriculture Jan Bieleman described it, in the late twentieth century "old school" agricultural farming turned into agri-business.

²⁷ The Netherlands is and has been the largest exporter of meat in the EU: "Nederland grootste vleesexporteur van de EU," Statistics Netherlands, published June 23, 2021. [https://www.cbs.nl/nl-nl/nieuws/2021/25/nederland-grootste-vleesexporteur-van-de-eu#:~:text=Ook%20in%20exportgewicht%20is%20Nederland,vlees%20\(5%20miljard%20euro\).](https://www.cbs.nl/nl-nl/nieuws/2021/25/nederland-grootste-vleesexporteur-van-de-eu#:~:text=Ook%20in%20exportgewicht%20is%20Nederland,vlees%20(5%20miljard%20euro).)

²⁸ Otterloo, "Voeding", 252.

²⁹ Koolmees, "From stable to table", 118-126.

In the last paragraph of this chapter, I illustrated how extreme the growth of both the production and consumption of meat in the country was and how already in the early 1950's, both the consumption and production by far transcended the amount of meat the total amount of Dutch inhabitants had to consume to stay healthy, according to modern standards. Meat had turned into an important trading product for the country.

Overall, this chapter illustrated the increase the meat industry went through in this period and how this growth has known no historical precedent. In the following chapters I illustrate how two completely different aspects from the meat industry functioned throughout these intense developments: the research and advertising industries.

Chapter 2: In the lab

“Vlees is niet alleen lekker, het is ook goed voor je. Vlees is een belangrijke bron van vitamines, mineralen en essentiële aminozuren” – campaign slogan Nederland Vleesland

In the second half of the twentieth century, the Dutch meat industry went through a period of rapid growth. Not only did the size of the livestock population strongly increase, but both the annual meat production and -consumption grew exponentially. The amount of institutions active within the meat industry also increased, with a wide variety of new institutes and corporations, ranging from logistics companies to companies specialized in slaughtering equipment becoming part of the industry towards the end of the twentieth century. This chapter will focus one kind of these new institutes in specific: the meat research institutes.

In the early years of the 1950's, research institutes who focused purely on meat and livestock related research were set up and already existing research institutes reorganized or expanded. Most of them had strong ties to the meat industry, through funding or research assignments. In the following chapter, I analyze the research of one these institutes in particular: the research group for meat and meat products, which was established as part of TNO in the early 1950's.

2.1 The research group for meat and meat products

2.1.1 TNO and the Dutch center for meat technology

In the second half of the 1950's, a research center specialized in meat research was established by board members of TNO.³⁰ After going nameless for a period of time, the department got named “Dutch center for meat technology” in 1963. The scientists working for the center carried out research on subjects in the field of meat technology, -quality, -chemistry and -microbiology. The research results were used to inform the meat industry, for example to advise on the best ways to slaughter, package or distribute meat and/or meat products. At times, their research results were used to inform the government on cases related to meat related rules and regulations.³¹

The Dutch center for meat technology was not the first institute in the Netherlands to focus on meat related research. Ever since the late nineteenth and early twentieth century, agricultural institutes and departments of research organizations such as universities had been doing research into subjects such as slaughtering and breeding.³² The involvement of TNO however caused the scientific field of meat research in the Netherlands to change. A short time after the establishment of their very own meat technology center, TNO also founded the research group for meat and meat products. To be able to keep their connections with the meat industry strong, facilitate knowledge exchange and organize the meat research done within the country, a group of TNO board members decided it would be a good idea to bundle some of the already existing meat related research institutes into one research group. This idea brought about the research group for meat and meat products. Member parties of this research group were institutes such as the institute for zootechnics

³⁰ Arie C. de Gooijer, *Over de tong. Veertig jaar voedingsonderzoek Voedingsorganisatie TNO* (Aarlanderveen: Uitgeverij Van Lindonk, 1980), 28.

³¹ De Gooijer, “Over de tong,” 28.

³² Ibid.

and the institute for fodder research, but also TNO's own Dutch center for meat technology. Working together not only made knowledge exchange easier and Dutch meat research more organized on a national level, but also made it easier for the individual institutes to obtain funds, for example from large, influential parties such as the Product Board for Cattle and Meat.³³

The research question central in this chapter is twofold. First, I want to analyze the role of nutrition value in the research as done by the group. The high level of nutrition values in meat was, and still is, one of the main arguments in favor of meat consumption, as will also become clear in the next chapter. In this chapter, I want to see how critically nutrition levels of meat were researched. Next, I want to analyze the other research done by members of the research group. What were often reoccurring subjects, and what does this say about the Dutch meat industry of the 1960's and 1970's?

2.1.2 Disclaimer on archive material and periodization

The following paragraphs are based on the archives of the research group for meat and meat products. I already extensively discussed my research methods in the introduction to this thesis. I however want to make clear here that these archives did not contain the complete archives from the research group for meat and meat products. Although the group got established in the late 1950's and my the archives of the research group for meat and meat products only cover the period between 1967 and 1980. The following paragraphs therefore will focus on that period mostly.

2.2 High in iron and overflowing with protein: meat as nutritious

2.2.1 Research proposals

Meat and meat products are important foods that contain valuable nutrients (..) needed for the growth and maintenance of the human body. It is therefore striking that these beneficial aspects of meat consumption (high protein content, good digestibility, presence of trace elements such as iron and of vitamins (such as vitamin b1) receive relatively little attention in the mass media, while the more negative aspects (high fat content and low polyunsaturated fatty acid content) receive a lot of attention. (..) The available data is apparently insufficiently accessible or of too outdated to make best use of it.

- Director of TNO Nutrition organization, in a letter to the secretary of the research group for meat and meat products, 17/5/1977³⁴

Above text is a piece of the introduction of a research proposal titled "macro and micronutrients in meat and meat products". It was sent to the research group for meat and meat products by the director of the nutrition research branch of TNO in 1977. In the remainder of the proposal, the director advocates for additional research on the nutritional value of meat. According to the director, meat could, next to containing high levels of protein, vitamins and iron, also possibly be the only source for certain fatty acids, which were "essential for human nutrition".³⁵

³³ Harry Lintsen, ed. *Tachtig jaar TNO* (Delft, TNO, 2012), 37

³⁴ Letter from the director of the nutrition organization TNO, 17/5/1977, XE 049:637.5, box 63, Commissie Researchgroep voor Vlees en Vleeswaren TNO, Nutrition Organization TNO Archives, National Archives, The Hague, The Netherlands.

³⁵ Ibid.

This research was planned to take place over the course of three years and was estimated to cost around 80.000 guilders (which converts to around €110 000 anno 2022) a year, largely sponsored by the Product board for Cattle and Meat.³⁶ The research would take place in three stages. First, a literature review needed to be compiled, containing the most relevant publications on nutrition and meat published in the last ten years. Second, already existing data needed to be collected about the chemical composition of a wide range of different kinds of meat products. The focus would be on whether or not these different products contained different forms of protein, fats or carbs. To finalize the research project, a list needed to be made of the meat products of which the chemical composition had yet to be researched and subsequently those products needed to be sampled and analyzed. The research proposal stated that the largest part of the research would be carried out by members of the CIVO (*Centraal Instituut voor Voedingsonderzoek*), the Dutch national institute for nutrition research (also part of TNO) but there occasional contact with the Educational bureau for nutrition (*Voorlichtingbureau voor de Voeding*) and Laboratories of the meat industry (*Laboratoria Vleeswarenindustrie*) was possible. The results of the research would be used for multiple purposes: to sketch a better public image of meat and rectify the unjust criticism the food group was enduring, to learn more about maintaining the nutritional value of meat while cooking it and to inform the Dutch general audience about the positive effects of meat consumption for their health.³⁷

2.2.2 Nutrition research in the Netherlands (1940-1960)

What does this proposal say about the character of the nutrition related research done by the group? On a primary level it makes clear that nutrition value was deemed an important enough topic to be on the agenda of research group part that belonged to serious large scale research institute such as TNO. As was made clear earlier in this chapter, the research group was established in the early 1950's as part of the nutrition organization of the Dutch scientific research center TNO. The nutrition branch got established in 1940, as a result of a growing demand within the country for information about diet and nutrition around that time. Ever since the 1920's, when (international) nutrition researchers began to realize that not only the amount of food people ate was important for staying healthy, but that microbiological elements such as vitamins in protein, fats and carbohydrates also played an important role in people's health, nutrition research gained ground within the Netherlands.³⁸ Its necessity and therefore popularity started to grow nationally when the Netherlands went through a period of crisis in the 1930's. Wanting to keep their citizens healthy, the Dutch government decided instructions on how to maintain a proper diet in times of



Figure 2.1 The first "Schijf van Vijf", with meat in the bottom right category.

³⁶ CBS, "Prijzen toen en nu," <https://www.cbs.nl/nl-nl/visualisaties/prijzen-toen-en-nu>, accessed February 28, 2023.

³⁷ Letter from the director of the nutrition organization TNO, 17/5/1977, XE 049:637.5, box 63, Commissie Researchgroep voor Vlees en Vleeswaren TNO, Nutrition Organization TNO Archives, National Archives, The Hague, The Netherlands.

³⁸ Pim Huijnen, *De belofte van vitamines. Voedingsonderzoek tussen universiteit, industrie en overheid 1918-1945* (Hilversum: Verloren, 2011), 32.

crisis and financial shortage needed to be broadly available. To achieve this, multiple diet and nutrition related foundations and commissions were established. All of these new institutions required scientific information to be able to inform Dutch citizens adequately, making knowledge about nutrition in high demand. Universities and other research organizations had already been doing some nutrition research, but a central force to coordinate the research and to grow the field of scientific nutrition research still was missing. After a period of political debate and lobbying, it was decided that TNO was the best place to establish such an organization, and in May of 1940 the TNO nutrition organization was born.³⁹

During the period that followed, nutrition research remained an important field of research within the Netherlands, due to the influences of the Second World War, when many food products were scarce and Dutch citizens struggled to eat a nutritious and fulfilling diet.⁴⁰ The TNO nutrition organization was responsible for multiple important nutrition related research and educational projects. They for example played a role in the research behind the famous *Schijf van Vijf* (literal translations: chart of five). The chart was made to advise Dutch citizens to eat a balanced and varied diet, by choosing foods placed within one of the five categories. In the first edition, published in 1953, meat was the basis of one of the five categories, together with legumes, cheese, eggs and fish.⁴¹

2.2.3 Nutrition value as a starting point

Nutrition value and the importance of a balanced diet were established important subjects within the field of scientific food research in the beginning of the second half of the twentieth century. The fact that the research group for meat and meat products did research into nutrition related subjects thus was far from surprising. When reading between the lines, the research proposal as discussed at the beginning of this chapter reflects something else about the character of the research group, that is more surprising. The proposal opens with the statement “meat and meat products are important foods that contain valuable nutrients”. According to the director of the nutrition group, these “beneficial aspects of meat consumption” deserved much more attention from the mass media, who usually only focused on the more negative aspects of the food product. New, more extensive information on the nutrition value of meat had to be provided to turn that trend around.

In the first half of the twentieth century, beneficial nutrition aspects had become selling points for food products, a trend that continued well into the rest of the century and is even still used nowadays in food advertising. In advertisements published in newspapers or magazines or, later in TV- and radio commercials, giving a food product the “healthy” or “nutritious” was a popular and often used way to convince the consumer of buying the product.⁴² Although never made explicit in any annual report or research proposal, the research group thus had an internal motive to “prove” the beneficial nutrition value of meat, to increase the popularity, and therefore consumption of meat. Higher meat consumption

³⁹ Lintsen, *Tachtig jaar TNO*, 109.

⁴⁰ Lintsen, *Tachtig jaar TNO*, 111-114

⁴¹ Suzanne van der Meijden, “A Critical History of Nutrition Education in the Netherlands (1900 – 2000): Shifting responsibilities and conflicting interests (Msc. Thesis Utrecht University, 2015), 18.

⁴² G.J. Bos, P.A. Flach, N.G.A. van Solingen and A.P den Hartog “85 jaar voedingsmiddelen advertenties in Nederlandse tijdschriften,” In *Voeding in onze samenleving in cultuurhistorisch perspectief* edited by A. De Knecht-van Eekelen and M. Stasse-Wolthuis (Alpen aan den Rijn: Samson Uitgeverij, 1987), 140.

would profit the institutional members of the research group, since most of them worked directly for the meat industry, such as the Institute for Animal Nutrition research or the Institute for Education in Butcher's trade. Other member institutes, such as TNO's own Dutch center for meat technology could probably receive more funding if the meat industry continued to grow, making new projects possible.⁴³

Although never made explicit in reports or research assignments, it seems as if this influenced the way the research group carried out their nutrition related research. Browsing through the proposals and reports of the group, it becomes evident that the group always started nutrition related research of from a positive point of view. Whether it was in research proposals, agenda's, reports or articles published by members of the group's research institutes, the starting point of any nutrition related research always had a positive starting point, with research questions like "how much vitamin b1 do different meat products contain' or "how can we make sure to maintain the high levels of vitamins in meat while cooking it?". In the next few paragraphs, I illustrate this research trend with a few examples from the archives of the research group.

2.2.3 Measuring vitamin levels

A convincing factor for determining how healthy a food product was in the second half of the twentieth century was to provide proof on the different kinds vitamins and other nutrients such as protein and iron that product contained. Research projects related to measuring vitamin, protein and iron levels can be found often in the archives of the research group. One example of such a project can be found in the annual report of the Dutch center for meat technology (hereafter: DCMT) of 1979. Scientists working for the center carried out a study in which twenty monsters of pork, beef and veal, both raw and roasted, were researched for their "vitamin b1, b2, b12, nicotinic acid and pantothenic acid levels". The monsters, as was reported, were also tested for their "moisture, fat, total level of protein and connective tissue protein levels".⁴⁴

The DCMT was one of the institutional members of the group which, in comparison to other institutional members of the research group, did the most research into the biochemical composition of meat and meat products. The already often mentioned Dutch Centre for Meat Technology was one of the only institutes that continuously had the nutrition value of meat on their research agenda. However, the fact that it was on their agenda's did not mean it was researched every year. In multiple of their quarterly and annual reports, the paragraph that otherwise would discuss the research done on nutrition value of meat and meat products remained empty. The only thing that was filled in was "no work was done on this project this year".⁴⁵

When there was time and money for nutrition related research in the center, it often covered the same kind of topics. The research varied from measuring nutrients in meat "as it was", to figuring out how to maintain these nutrients during different types of cooking processes and searching for connections between different levels of nutrients. Scientists from the DCMT would for example smoke a certain cut of meat for a long period of time and see how that affected its nutritional value. They also researched what type of cooking

⁴⁴ Annual report DCMT 1979, XE 049:637.5, box 58, Commissie Researchgroep voor Vlees en Vleeswaren TNO, Nutrition Organization TNO Archives, National Archives, The Hague, The Netherlands.

⁴⁵ Annual report DCMT 1967, XE 049:637.5, box 56, Commissie Researchgroep voor Vlees en Vleeswaren TNO, Nutrition Organization TNO Archives, National Archives, The Hague, The Netherlands.

(smoking, frying or cooking) influenced the nutritional value the most and how long a meat product could be cooked for before it started to lose nutritional value.⁴⁶

Although most of the nutritional research projects had a positive point of departure, that did not automatically always ensure positive outcomes. Some DMCT research reports did show that at time, their quest to look for the health factor in meat did not lead to much results. Below excerpt is from a research report that investigated the relationship between levels of collagen and protein:

A preliminary analysis of the results indicates that there is no unambiguous relationship between collagen-to-protein ratio and protein quality (nutritional value), although a general trend is present that nutritional value decreases with increase in collagen-to-protein ratio.⁴⁷

Proving that, in the case of nutrition related research not working out, it was let go.

2.2.4 Public articles and diet trends

The archives of the research group contained a selection of multiple (semi-) scientific journals or magazines in which scientists who were part of the research group for meat and meat products had published articles. Below is a (translated) excerpt from an article written by a member of the board of the research group for meat and meat product, P.C. Moerman. It was published 1977, in a Dutch trade magazine for the meat industry, *Vleesdistributie en Vleestecnologie* (meat distribution and meat technology).

In the Netherlands, meat and meat products play an important role in the protein supply of consumers, as well as contributing to the supply of certain minerals and vitamins. Two aspects are important for protein supply, namely the amount of protein and the composition of the protein. The edible parts of a slaughter animal consist of a very large number of different proteins, and so do the meat products made from this meat.

(...) Another important aspect of processed meats is the already mentioned mineral and vitamin content, especially iron and vitamin B1. Most processed meats contain about 1.5 mg iron per 100 g, but liver sausages contain about 5 mg/100 g. The human daily requirement is about 10 mg, bearing in mind that iron from meat and processed meats is usually well absorbed by the body. The vitamin b-1 content is usually around 0.1 mg/100 g, for processed meats containing a lot of pork at around double this amount. The daily requirement of vitamin b1 is estimated at around 1 mg.⁴⁸

Moerman starts his article with a very similar statement to the opening statement of the research proposal as discussed in the introduction of this chapter: "In the Netherlands, meat and meat products play an important role in the protein supply of consumers". He continues to describe how next to being important sources of protein, meat and meat products also contain high levels of multiple very important nutrients such as vitamin b1 and iron. It is

⁴⁶ Annual report DCMT 1970, XE 049:637.5, box 58, Commissie Researchgroep voor Vlees en Vleeswaren TNO, Nutrition Organization TNO Archives, National Archives, The Hague, The Netherlands.

⁴⁷ Annual report DCMT 1977, XE 049:637.5, box 64, Commissie Researchgroep voor Vlees en Vleeswaren TNO, Nutrition Organization TNO Archives, National Archives, The Hague, The Netherlands.

⁴⁸ P.C. Moerman, "Voedingswaarde van Vleeswaren," in Journal for meat distribution and meat technology (4), published in 1977, XE 049:637.5, box 63, Commissie Researchgroep voor Vlees en Vleeswaren TNO, Nutrition Organization TNO Archives, National Archives, The Hague, The Netherlands.

clear that Moerman wanted to convince his readers of one thing: meat is a nutritious and therefore responsible and healthy choice for your diet.

In the second half of his article, another angle on the stance of the research group towards nutrition presents itself. Moerman writes:

Finally, a word on fat content. The average fat content of processed meat products is 20-30%, with a wide range up and down. The average charcuterie consumption is about 40g per person per day. Assuming an average fat content of 30%, processed meats provide an average of 140 calories per day, which, given their useful contribution to nutrient fortification, gives no cause for concern.⁴⁹

The risk of overconsumption slowly became a problem towards the end of the twentieth century. For the first time, after a long time of food being scarcely available due to periods of crises and war or being too expensive, overeating or over consumption of fat or sugar leading to obesity or dental issues respectively became a possibility. This concerned Dutch nutrition educational authorities. The advices and campaigns as published by those authorities reflect this: products high in fat and sugar are warned about, and a healthy, balanced diet in combination with frequent exercise is stimulated. Food product thus could be (un-)healthy on more ways than one. Healthy did not only mean high in vitamins, minerals or acids anymore, but also implied being low in fat or sugar.⁵⁰

Diet trends more often influenced the group's research agenda. In a DMCT research report published a few years before Moerman's article in 1973, scientist noted how there is a "growing interest in healthy eating" and that, if necessary, recipes for processed meats should be updated to "the current insights of nutritionists", to make sure meat remained a healthy food product and thus attractive for the consumer to keep buying and the meat industry to keep growing.⁵¹

Even earlier, in the late 1960's, another food trend was discussed by the research group. In the late 1960's, a new sort of meat replacement was introduced in the Netherlands: TVP (Textured Vegetable Protein). Some of the board members of the research group for meat and meat products were invited to an event to try out this new and revolutionary product. The president of the board asked his fellow board members about their experiences with the product. Although they were not overly positive about the product, they did see potential for the product because of its high nutritional value. One of the board members commented that TVP even had a higher nutritional value than meat did, and the president added that TVP had the potential to be just as versatile as meat, due to its neutral flavor.⁵² This illustrates how the research group was fully focused on nutrition value and were not against alternative ways to consume this.

⁴⁹ P.C. Moerman, "Voedingswaarde van Vleeswaren," XE 049:637.5, box 63, Commissie Researchgroep voor Vlees en Vleeswaren TNO, Nutrition Organization TNO Archives, National Archives, The Hague, The Netherlands.

⁵⁰ Jon Verriet "Representing the Healthy Lifestyle: Contested Ideas about Nutrition and Physical Exercise in the Netherlands, 1940-2020," (PhD. diss Radboud University Nijmegen, 2022), 32.

⁵¹ Third quarterly report DCMT 1973, XE 049:637.5, box 57, Commissie Researchgroep voor Vlees en Vleeswaren TNO, Nutrition Organization TNO Archives, National Archives, The Hague, The Netherlands.

⁵² Report of a board meeting of the research group for meat and meat products, part of the attachments for a general meeting held in 1968, XE 049:637.5, box 55, Commissie Researchgroep voor Vlees en Vleeswaren TNO, Nutrition Organization TNO Archives, National Archives, The Hague, The Netherlands.

2.2.5 Consequences of the research approach

All throughout the group's nutrition research, meat got presented and researched as a healthy and versatile product. Although, now and again, research was let go due to a lack of results, the group never thought about researching possible negative effects of meat research. In the many research proposals, reports and projects, there was a complete silence on possible negative effects of meat consumption, such as the possible carcinogenic influences of meat (over)consumption or its negative effect on blood pressure, well known consequences of over consumption of (red) meat nowadays.

This lacuna in their research can be blamed on the fact that this knowledge did not yet exist: nobody thought of looking into possible negative effects. However, at other TNO research departments, these possible negative effects of meat over consumption were already known. Below quote is from a book about the history of the TNO nutrition department, published in 1980:

Without being able to say which diet causes which form of the disease. A study on dietary differences in relation to this disease (red.: cancer) showed that Seventh-day Adventists, who do not smoke, and who live on a diet in which **meat**, fish, coffee, tea and milk are few and far between, have a significantly lower incidence of many forms of cancer than other population groups. Because of the CRVO, it has been published that tests on animals have shown, that a diet low in fat, whether animal or vegetable, is less determinant of the occurrence of spontaneous tumors, than a diet high in fat. Not only in the CRVO, other laboratories have also shown that fat, protein and meat and a certain amount of dietary fiber influence the development of colon cancer.

- Aart de Gooijer in *Over de tong, Veertig jaar voedingsonderzoek*.⁵³

2.3 Other research in favor of the meat industry

It is inaccurate to represent the research group for meat and meat products as a research group interested in nutrition value related research only. Their archives showed many other research interests. Alike to their nutrition related research, most of these other research interests served in favor of the functioning of the meat industry. In the last paragraphs of this chapter, I want to give an overview of the non-nutrition related research done by the research group to picture the research character of the research group in an accurate way but also show how large the role of nutrition was within the group.

2.3.1 Institutional members

Throughout their lifespan, the research group consisted of eight to ten research institutes. Through the years, some institutes joined and some left. The main body of institutional members stayed quite constant throughout the lifespan of the research group. Below list resembles the members of the research group as they were listed in the annual report of the research group in 1970:

- Institute for Animal Nutrition research
- Institute for Stockbreeding research
- Laboratory for Livestock Sciences (part of the agricultural academy in Wageningen)
- Dutch Centre for Meat Technology (TNO member)

⁵³ De Gooijer, "Over de tong," 33.

- Institute for Food Products of Animal origin (part of the faculty of veterinary medicine of Utrecht University)
- Institute for Zootechnics (part of Utrecht University)
- Institute for Education in the Butcher's trade
- National Institute for Public Health
- Chief Veterinary Inspectorate
- Product board for Cattle and Meat (joined as a member in 1970).⁵⁴

From looking at this list alone, it is immediately evident that nutrition research was not the most important subject of research for most of the group's members. Most of the institutes, such as the Institute for Zootechnics, the Institute for Education in the Butcher's trade or the institute for Stockbreeding Research had little or nothing to do with human nutrition.

2.3.2 Annual reports and spending of funding

Then what did these institutes research? The research group for meat and meat products reported about their scientific endeavors by, amongst other things, putting together annual reports. These documents were always divided into multiple chapters: an introduction, a conclusion and in a number of chapters on research. To give an idea of what these chapters looked like, below is a list from the annual report of the research group of their annual report published in 1969, containing some of the more detailed research descriptions.

1. Meat production and quality standards research in cattle slaughter
 - Simple methods for determining carcass composition in beef bulls and slaughter cows (to be developed through carcass analyses)
 - Generation crossing for meat production in black and white cattle
2. Research on slaughter quality standards in pigs and sheep and anomalous meat properties in pigs
 - Intersex in pigs
 - Slaughter quality standards for lambs and sheep
3. Physical-chemical and biochemical studies on various properties of meat and meat products.
 - Research on meat enzymes, in thawed meat and pasteurized products
 - Determination of the amount of meat protein in meat products, either by using meat peptides or by determination of glucoproteins
4. Technological research of meat and meat products aimed at improving methods of preservation and heating.⁵⁵

This annual report gives an accurate insight into the research interests of the group in general. Three out of the four scheduled research topic reflect a clear interest into research related large scale meat production, from research on breeding to research about slaughtering animals and preservation of meat products. Only one of the topics covers the

⁵⁴ Annual report research group for meat and meat products, XE 049:637.5, box 55, Commissie Researchgroep voor Vlees en Vleeswaren TNO, Nutrition Organization TNO Archives, National Archives, The Hague, The Netherlands.

⁵⁵ Research agenda research group for meat and meat products, XE 049:637.5, box 55 Commissie Researchgroep voor Vlees en Vleeswaren TNO, Nutrition Organization TNO Archives, National Archives, The Hague, The Netherlands.

concept of nutrition, the chapter called the physical-chemical and biochemical studies on various properties of meat and meat products.

Annual reports from a later date confirm that this was average for what the group spend their time on. A document reporting over the group's activities of 1975 includes an overview of how their sponsored research money was used. According to the report, the money was spent on the following projects: seven animal husbandry projects about production, slaughter quality and slaughter, four projects about hygiene in the slaughtering process and in meat and meat products, three projects about quality aspects of meat and meat products and five technological projects, partly on slaughterhouse issues, partly on meat transport and processing.⁵⁶

2.3.3 Reoccurring research subjects

During my research in the archives of the research group, it stood out to me that a few subjects that have remained undiscussed thus far kept on reoccurring in the group's research reports. A long ongoing project the group worked on was for example the problem of *berengeur*, or boar taint in English, occurring in certain cuts of pork. Boar taint is a bad smell that occurred when cooking pork derived from male uncastrated pigs. The Dutch institute for stockbreeding research had the lead in identifying this problem and finding possible solutions. After a period of running tests and analyses themselves, a panel of housewives was gathered. The women partaking in this panel were sent multiple samples of both "regular" pork meat and the "boar" pork meat to cook. Their evaluations were used for further research into the occurrence and prevention of the weird smell.⁵⁷ The boar taint seemed to be quite a large problem for the research group. The subject re-occurred in many annual research reports and was often discussed by the board members in their monthly meetings.

Another large part of group's research had to do with hygiene. This subject was researched from many different angles. The institutes would carry out research to figure out new and innovative ways to produce, store and transport meat in a hygienic way. Storing and preserving meat on itself also was a subject of large interest within the group. In 1969, it even was one of the main chapters of the group's annual report: "Technological research of meat and meat products aimed at improvements in preservation and heating methods".⁵⁸

The group thus paid a lot of attention to hygiene related research, under which they researched how to keep pig slaughter hygienic, in what ways to vacuum wrap meat, how different ingredients added to meat changed its shelf-life. Then lastly was technology. The researchers were continuously looking for new ways to slaughter and handling and processing animals and looking into the possibilities to automate these processes.

The here abovementioned themes had little or nothing to do with nutrition. However, it could be argued that the research of these institutes could be seen as another way of looking at the concept of "health". Hygienic aspects were very important for the

⁵⁶ Annual report research group for meat and meat products, XE 049:637.5, box 62, Commissie Researchgroep voor Vlees en Vleeswaren TNO, Nutrition Organization TNO Archives, National Archives, The Hague, The Netherlands.

⁵⁷ Minutes of a board meeting of the research group for meat and meat products 18/11/1968, XE 049:637.5, box 55, Commissie Researchgroep voor Vlees en Vleeswaren TNO, Nutrition Organization TNO Archives, National Archives, The Hague, The Netherlands.

⁵⁸ Research agenda research group for meat and meat products, XE 049:637.5, box 55 Commissie Researchgroep voor Vlees en Vleeswaren TNO, Nutrition Organization TNO Archives, National Archives, The Hague, The Netherlands.

quality of meat products and therefore the health of the people that consumed them. Most of the institutes however were simply not interested in nutrition. Rather the group worked in favor of the industry and did their best to accommodate the meat industry in whatever was needed. The scientific knowledge gathered by the research group was used in a way that practically served the industry, not necessarily the consumer or agricultural science itself.

2.4 Conclusion

In this second chapter, my analysis of the research group for meat and meat product has proved a few things. Before moving on to the next chapter, I want to shortly summarize these findings.

The research group for meat and meat products was established in the early 1950's and existed largely of research institutes which had close connections to the meat industry, both through funding and research assignments. This influenced the way the research as done by the group was set up. Most of the research was done in favor of the industry. Take for example the nutrition related research. The scientists working for the research institutes never wondered whether or not meat consumption could also possibly have negative influence on the consumer's health. Instead of that, they were busy with measuring vitamin levels and other nutritional values in a wide range of meat products and analyzing how they could adjust their products to fit the newest diet trends. In short, the nutrition related research as done by the research group for meat and meat products between the end of the 1960's and the 1970's was very health oriented.

When looking at the non-nutrition related research, a similar trend can be detected. A lot of the research topics were industry related. Projects were set up to for example research innovative ways of slaughtering animals, maximize export efficiency, reevaluate different ways of packaging and storing of meat products or new ways to breed livestock animals. The reoccurring topic on how to get rid of the boar taint in pork also underlines this. Boar taint prevented pork from being sold and therefore it was important to get rid of, so pork sales could continue to rise. Even though the research group was part of the nutrition organization of the independent center for applied scientific research (TNO), the meat industry had a large influence on the research projects.

Chapter 3: In the public

“Lekker en voedzaam eten is een kwestie van kiezen en 94% van de Nederlanders kiest voor vlees” – Campaign slogan Nederland Vleesland

3.1 Meat advertisements

“Eating meat is eating well!”, “Holidays are meat days”, “The main course is meat... lots of meat!”, “Meat ma’am, you know why!”. These are just a few examples of slogans the average Dutch reader could stumble upon when scrolling through the advertisement pages of a newspaper or (women’s) magazine published in the Netherlands somewhere between 1960 and 1980. The slogans were used for a broad range of advertisement promoting the consumption of meat and all kinds of meat products.

Food advertisements were not a new phenomenon in the second half of the twentieth century. Ever since the early 1900’s newspapers and (women’s) magazines had slowly been filling up with food related advertisements for all sorts of products, ranging from chocolate and coffee to butter and bread.⁵⁹ After the reconstruction period that followed the Second World War, food related advertising took off explosively in Dutch printing, with advertisements at times filling more than half of an average magazine in the early years of the 1960’s.⁶⁰

The meat boasting advertisements that used the slogans as mentioned at the beginning of this paragraph were part of multiple large scale meat campaigns designed and paid for by a foundation called the Educational bureau for meat, meat products and meat preserves (*Voorlichtingsbureau voor Vlees, Vleeswaren en Vleesconserven*). The foundation, founded in 1961, had as their main goal to convince the Dutch consumer to buy and consume more meat. Publishing advertisements was one of their ways to try and obtain this goal. In their publications, they used all sorts of food related characteristics such as healthy, versatile, cheap, tasty, easy and fulfilling to convince the Dutch consumer to buy their product.

Alike to the research group for meat and meat products, the foundation educational bureau for meat, meat products and canned meat was a product of the meat industry. It was founded by board members of the Product board for Meat and Cattle in 1961. The Product board, as discussed in the first chapter of this thesis, functioned as an advocacy party for the whole meat industry. To make sure meat sales remained stable or in a better scenario would go up, the board developed an advertising strategy for the products that were created in the industry. The foundation carried out parts of this strategy, with financial help from the Product board for Meat and Cattle.

In the first chapters of this thesis, the research focus has mainly been on the functioning of the “inside” of the meat industry, through analysis of its development in

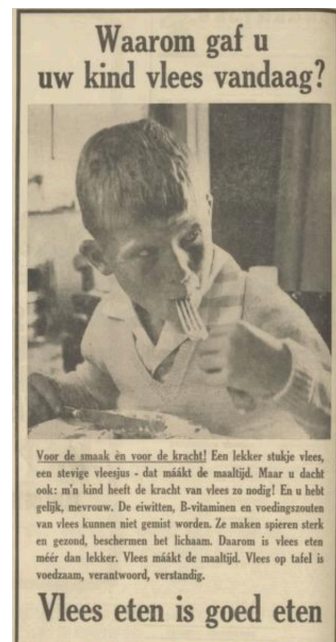


Figure 3.1 Example of one of the first advertisements of the foundation. Source: *Algemeen Dagblad*, October 3 1961, via *Delpher*.

⁵⁹ Bos, Flach, N.G.A. van Solingen and den Hartog “85 jaar voedingsmiddelen advertenties,” 140.

⁶⁰ *Ibid.*, 139.

numbers and a focus meat related research projects. In the following chapter, I want to focus on how the meat industry presented meat outwards, to their general public: their consumers. The advertisements as published by the foundation give a great insight into this.

Through analysis of the meat advertisements as published by the foundation between 1960 and 1980, I will give an answer to the research question central in this chapter: This analysis will not illustrate how meat was perceived, but it will give insights into how the meat industry wanted meat to be conceived.

3.2 On source selection and method

To gather as much of the bureau's advertisements as possible, I used an online database for Dutch historical sources, www.Delpher.nl. Delpher is ran by the National Library of the Netherlands (*KB*) and contains over 130 million digitized pages of Dutch books, magazines and newspapers, some of them dating back as far as the early 1600s. Through use of optical character recognition (OCR) software, all of these digitized documents have been made searchable by key words and phrases. Doing research on basis of online text repositories such as Delpher brings about new challenges for historians. For example when it comes to keyword selection. According to Dutch historian Hieke Huistra, the key words/phrases you use while browsing through databases like these are of importance: what words or phrases cover what you are trying to find, how do you make sure you find everything you need, but how do you at the same time prevent your data to overflow with results you do not need?⁶¹ When it came to finding the right keywords to find the advertisements in Delpher's large corpus, this did not immediately pose a challenge: all of the advertisements as published by the foundation were trademarked with the full name of the foundation, a fact that was confirmed by the annual reports of the foundation.⁶² To find the advertisements as published by the foundation in the large corpus of Delpher, (a part of) the name of the foundation could serve as key phrase. Between 1960 and 1980 however, the foundation slightly changed their trademarked name a few times and therefore it was necessary to use two sets of key phrases to come up with as many results as possible: "voorlichtingsbureau vlees" (767 results) and "stichting voorlichting vlees" (343 results). For both phrases, I set the time scope to 1-1-1960 – 31-12-1979 and selected both regional and national newspapers. In my analysis, I do not focus on the different sorts of newspapers the advertisements were published in. I chose to include but regional and national newspapers in my database to extract as many advertisements as I could from Delpher's database. Although the annual reports of the bureau made clear that the advertisements were also often published in (women's) magazines, I decided to focus on newspapers only, to limit the scope of my analysis. Including women's magazines especially would require me to delve into the gendered aspect of the buying, cooking and consuming meat, which is highly interesting, but unrelated to the further contents of my research.

Both key phrases gave me a long list of results and almost all of the items listed were the advertisements I was looking for. The only anomaly I stumbled upon was that one

⁶¹ Hieke Huistra, "Experts by experience: Lay Users as Authorities in Slimming Remedy Advertisements, 1918-1939," in *BMGN – Low Countries Historical Review* 132 (2017): 128-129.

⁶² Annual report foundation Educational bureau for meat, meat products and canned meat 1962, box 2739, Archives of the Product Board for Livestock and Meat (PVV), 1956 - 2013; Product Board for Poultry and Eggs (PPE), 1956 - 2013; and the Joint Secretariat Product Boards for Livestock, Meat and Eggs (GS PVE), 1993 - 2013, National Archives, The Hague, The Netherlands.

publication of an advertisement sometimes appeared twice or even three times in the list of results. I decided to leave these out of the analysis. I also left out all results that were not advertisements; some of the search results were articles or reports discussing actions or expositions set up by the bureau. Delpher does have the option to filter out articles or advertisements, but since the OCR software can still be unreliable at reading the digitized pages in a correct manner at times, I decided to filter out these regular articles myself.

I put all of the information Delpher gave me about the advertisements (date, name of the newspaper, Delpher url, title, text and buzzwords) into an Excel document, using a new sheet for every year and keyphrase. To clarify: the first sheet is called *1961 – stichting* and the second one is called *1961 – bureau*, to signify which keyphrases gave the results on the sheet.

When comparing my Excel database to the annual reports from the bureau, it became clear that the advertisements as I found them in Delpher, although there were plenty, were not all of the advertisements the bureau ever published in the period my research covers (1960-1980). This means that my database is incomplete and therefore quantitative analysis, although potentially very interesting, is impossible, or at least unreliable. The fact that I was not able to find every advertisement can have multiple reasons: either Delpher has not digitalized all of the newspapers they were in yet, the OCR software used to search the pages was not good enough to find all of them based on the keyphrases I used, or some of the advertisements found in the annual reports were not published in newspapers, but in magazines. The annual reports of the bureau did not go into detail where each advertisement was published, so there is no way to rule that out. The following analysis is based on around 900 advertisements, published in both national and regional Dutch newspapers, published between 1960 and 1979.

3.3 “Eating meat is eating good”: meat as superfoods

In the last chapter, the importance of nutrition value for the meat industry already was explained. A popular advertisement strategy was to describe the product being advertised as “healthy” or “nutritious”. In the following paragraphs I want to give insight into the multiple ways the foundations used these concepts in their advertisements.

3.3.1 The advertisements

The very first campaign, launched in November of 1961, already contained multiple health claims:

“Why were you at the butchers today? - Because you want power in your meals! Of course, you like to see your family beam (*glunderen*) over a piece of meat, a sturdy meat gravy that tastes so good. But in particular you are convinced that they require the power of meat. And you are right, ma’am! The protein, B-vitamins, nutrition salts of meat cannot be missed. They make muscles strong and healthy, protect the body. That is why meat is more than tasty. Meat makes the meal. Meat on the table is nutritious, responsible, wise”.⁶³

At the bottom of the advertisement, the campaigns slogan was printed in large letters: “Eating meat is eating good” (*Vlees eten is goed eten*). The message this advertisement

⁶³ “Waarom was u vandaag bij de slager?”, *Algemeen Dagblad*, published September 26, 1961, <https://tinyurl.com/yeyvwxx6>

wanted to convey is clear: meat is a healthy food product everyone should incorporate in their diet, due to its many health benefits. The way that this message was conveyed however is quite distinct: the advertisement explicitly mentions the different biochemical parts of meat (“B-vitamins, protein and nutrition salts”) to convince the reader of the nutritional value of the product. It occurred more often in food advertising that scientific product information was disclosed to the reader to convince them of buying the product.⁶⁴ According to a group of historians who did a large scale research on food advertising in the Netherlands in the twentieth century, about one in ten food advertisements published between 1960 and 1975 included scientific details about the biochemical composition of the product they were trying to sell; thus quite a popular strategy.⁶⁵ The foundation made use of this strategy throughout multiple of their campaigns launched in the 1960’s. Next to protein, vitamin b and nutrition salts, the high levels of iron and minerals meat allegedly contained also were often brought up in the publications. Meat was described as the ideal building block for a stable immune system, a product the consumer could rely on for maintaining or achieving perfect health, for themselves or for their children. In a 1968 campaign the foundation gave a new spin on the nutrition advertisements, by stating how the unique combination of the multiple high nutritional values made meat more than worth its price.⁶⁶

A comparison between the contents of these meat advertisements and the research of the research group for meat and meat products as discussed in last chapter can be made here: the group’s research focus, when researching nutrition value, was also on the biochemical composition of meat, and its positive influence on human health. Both institutes focus on the same kinds of components: iron, vitamin b and proteins. However, neither the annual reports of the foundation nor annual reports of the research group specify a direct collaboration between the research institute and the advertisements of the foundation.

The annual reports of the foundation are even remarkably silent on where this scientific information used in the advertisements is based on. The reports are filled with a lot of other subjects: which advertisement bureaus hired to design the advertisements, where the advertisements were published and how they were received by the public. There no attention for the (scientific) contents of the advertisements, nor is there ever a mention of new scientific developments in the research area of nutritional value of meat that could be used for new campaigns. What is specified in the reports is that the Dutch Centre for Meat technology, one of the institutional members of the research group for meat and meat products who did the most research into nutritional value out of all of the members, did work together with the foundation for their so-called “meat exhibitions”. The foundation was responsible for organizing these exhibitions, which were held all throughout Europe to introduce the consumer to meat and meat products in all of their varieties. What exactly the Dutch Centre for Meat technology contributed to these exhibitions remains undisclosed.

3.3.2 Healthy, and nothing else

Some of the health related advertisements were very specific in what meat made so very healthy. However, a large part of the foundation’s advertisements were a lot less detailed in their health claims. This is illustrated in an advertisement campaign that ran from January until June 1966. Every week, the foundation published a recipe in which the main ingredient

⁶⁴ Bos, Flach, N.G.A. van Solingen and den Hartog “85 jaar voedingsmiddelen advertenties,” 150.

⁶⁵ Ibid.

⁶⁶ “Dagelijks ’n goede portie vlees,” *De Nieuwe Limburger*, November 20, 1968, <https://tinyurl.com/mrxepkbw>

was meat, ranging from for example beef stew to pancakes with bacon. Most of these recipes would contain phrases such as: “minced meat is pure meat.. and therefore very healthy!” or “beef stew, once again your main course is healthy and tasty!”.⁶⁷ Unlike the advertisements discussed before, in which the biochemical composition of meat was used to prove its nutrition value, these health claims remained unmotivated. This trend appeared more often throughout the foundation’s campaigns. Advertisements proclaimed how meat was “the powerhouse of the meal” and “strength giving”, without adding what exactly was meant by those statements.⁶⁸ The foundation was, again, not the only institute to make use of “empty” health claims in their advertisements. According to the aforementioned historical study on food advertising in the Netherlands in the twentieth century, it happened very often that a food advertisement contained the phrase “healthy” without providing any scientific context on the product’s nutritional value.

In the early 1970’s, this phenomenon was pushed to its limits by the foundation. A new campaign was launched which included a new slogan: “meat ma’am, you know why”.⁶⁹ The advertisement itself consisted of the slogan printed on an image of a wooden cutting board and nothing else. It seems as if the foundation wanted to bring about the message that after many years of campaigning, everyone should by now know about the many advantages of eating meat, and that not more context needed to be provided.

It is noteworthy that this campaign got picked up by a group of journalists, a little while after it first was launched. In December of 1974, an article titled “Less meat ma’am, you hopefully know why” (*Minder vlees mevrouw, u weet hopelijk waarom*) was published in a large national newspaper, *NRC Handelsblad*, in response to the campaign of the foundation.⁷⁰ The authors of the article pleaded for a lower meat consumption. The reason behind their plea was that the fact that the meat industry used a lot of food to feed animals meant for meat production, that could better be used to feed “the hungry parts of the world”. According to them, eight kilos of “agricultural products’ were used to produce one kilo of meat. The authors did not understand that the advertisements as published by the foundation acted as if people ate too little meat and argued that it would show solidarity of people lessened their meat consumption at least a little. The publication of this article illustrates that the advertisements of the foundation did not go unnoticed, but also show that there were in fact already debates and disagreements about meat and the consequences of (over-) consumption.

3.3.3 Cultural influences

There is a third category to be distinguished among the health related advertisements: the advertisements that refer to diets. For a long time, the message of the foundation when it was about amounts of meat to be consumed was the more the better. In a 1964 campaign for example, the foundation’s advertisements stated how all healthy children (both boys and girls) should have large appetites. Being hungry and therefore eating a lot was a good thing:

⁶⁷ “Hoofdschotel? Vlees!,” *De Nieuwe Limburger*, April 12, 1966, <https://tinyurl.com/48bhv287>

⁶⁸ “Vlees geeft uw gulden dubbele waarde,” *Algemeen Dagblad*, October 4, 1962, <https://tinyurl.com/2p8w5p8e>

⁶⁹ “Vlees mevrouw, u weet best waarom,” *Algemeen Dagblad*, June 4, 1974, <https://tinyurl.com/yckaz8y5>

⁷⁰ W.J. van Campen and B.W. L. Greif, “Dagelijkse portie vlees kan gehalveerd,” *NRC Handelsblad*, December 5, 1974, <https://tinyurl.com/5n7nwjk8>

because “all of that delicious meat contains só much power” and would only help develop the children in a better way.⁷¹

A few years later however, when overconsumption was becoming starting to be viewed as a problem and diet culture started to influence society more and more, a phenomenon as described in more detail by historian Jon Verriet in his dissertation thesis, the foundation seemed to change opinions about the quantity in which meat should be consumed. A series of advertisements published in the second half of 1967 stated how meat was the ideal part of your dinner, because you could eat only a small amount of it and still leave the table feeling satisfied.⁷² In short: by eating meat, you could stay skinny. Meat was “*goed voor de lijn!*” as it was phrased in the advertisement.⁷³

This change of direction illustrates how, just as had been the case with the research agenda of the research group for meat and meat products, external factors influenced the tone of voice of the foundation. And that meat as healthy could be seen from different sides: sometimes you had to eat a lot of it, sometimes only a little, but in both ways it still was the best choice health wise. Just as was the case with their nutrition related research as done within the research group. External factors influenced how the message about meat was put across.

A point I would like to address to finish this paragraph on health related advertising is the name the foundation was given to publish these advertisements with: the foundation educational bureau for meat, meat products and canned meat. The name sounds very similar to one of the most important nutrition education bureaus that existed in the second half of the twentieth century in the Netherlands: the Dutch Nutrition Education Bureau (*Voorlichtingsbureau voor de Voeding*). This bureau, amongst other things, was the publisher of the *Schijf van Vijf*, as discussed in the last chapter and one of the real authorities in the field of nutrition and education about a healthy diet.⁷⁴ It is unclear whether or not this was on accident, neither the annual reports of the foundation nor the annual reports of the product board disclose any information on the picking of the name. However by picking a name that is so similar to the name of a nutrition authority, it seemed as if the foundation wanted to trick their reader in some way, by making them believe that they were an authority, while they in reality were just an advertisement bureau.

3.4 Beyond health: meat as delicious, practical or quick.

Health, nutrition value and diet were three of the most often used themes in the foundation’s advertisements. Upon a closer look however, some other themes also played a significant role in the advertisement campaigns of the bureau. It seemed as if the foundation would make use of any concept they could to put meat in a positive daylight. In the following paragraphs, I illustrate this with some examples.

3.4.1 Tasty, versatile and abundance

Other very popular concepts that made constant reappearances in the meat advertisements of the foundation were “tasty” or “flavorful”. Taste was, logically, nationwide a popular concept to advertise a food product with. Around 75% of food related advertisements

⁷¹ “Hoofdschotel? Vlees!,” *Het Parool*, September 10, 1964, <https://tinyurl.com/42c29s9c>

⁷² “Stelregel van het verstandige gezin: dagelijks een goede portie vlees,” *Trouw*, September 11, 1967, <https://tinyurl.com/bddxt2tb>

⁷³ Ibid.

⁷⁴ Verriet, “Representing the healthy lifestyle,” 32-35.

published between 1961 and 1975 contained some claim on the tastiness of the product.⁷⁵ In the foundation's campaigns however, taste was not very often used on its own as a unique selling point, but more often in combination with other concepts. The recipe campaign in 1966 for example as discussed in the last paragraph often used words to describe meat or their recipe as "tasty" and "delicious" but would always combine those concepts with others such as "healthy" or "nutritious". This combination between healthy and taste was used more often. In a campaign launched in the late summer of 1962 for example, in which the foundation made the point that meat was worth double its value due to the fact that it was both tasty and full of nutrients important to the human body, with use of the slogan "Eating meat is eating (twice as) good".⁷⁶

Through the years, marketeers working for the foundation continued to be creative and continuously found new concepts to advertise meat with, apart from taste and nutrition value, although those would be continuously used all throughout the 1960's and a part of the 1970s'. In a 1963 campaign, smartly launched just before the summer, meat was given a new characteristic: easiness and/or quickness.⁷⁷ The campaign was set up for canned meat specifically. Since the summer holidays season was approaching, canned meat was advertised as the ideal snack or dinner item to take with you when packing for your vacation. It could satisfy quick hunger, save money while you were abroad, it was tasty, it was a safe product, you could bring it with you during your holidays hikes, you always had a snack prepared when unexpected guests would arrive and you would still be able to travel light and quickly.⁷⁸

When looking at other campaigns published later in the 1960's, the popularity of food that could be prepared quickly seemed to be gaining ground in the Netherlands. An advertisement of a campaign published in 1967 with the slogan "The main course? Meat, every day!" depicts a smiling man stating that his family never has a "meat-free day", even though his wife works during the day. Thanks to the many available, easy and quick to prepare meat products, his wife managed to feed the family meat every single day.⁷⁹ Socially, women were starting to move out of the house and kitchen around this time and into working life more often, a trend that was clearly picked up by the advertisers of the foundation.⁸⁰ The advertisements that actively pointed out that women were working during the day illustrate how, just as was the case with research and the diet related advertisements, societal developments influenced the how the foundation presented meat and meat products.

⁷⁵ Bos, Flach, N.G.A. van Solingen and den Hartog "85 jaar voedingsmiddelen advertenties," 150.

⁷⁶ "Een gulden aan vlees is twee waard," *Trouw*, September 25, 1962, <https://tinyurl.com/2aru7dz7>

⁷⁷ "Tuf een smakelijke vakantie tegemoet.. neem vlees in blik mee!," *Algemeen Dagblad*, July 4, 1963, <https://tinyurl.com/4bskv4a4>

⁷⁸ *Ibid.*,

⁷⁹ "Wij kennen geen vleesloze dagen!," *Tubantia*, January 12, 1967, <https://tinyurl.com/vwcn7v73>

⁸⁰ Jon Verriet, "Ready Meals and Cultural Values in the Netherlands, 1950-1970," in *Food & History* 11, no. 1 (2013): 137.

There were also campaigns strategies which were not so straight to the point and did not necessarily appoint one or two qualities to meat, but rather advertised a certain feeling, mood or nice situation surrounding the consumption of meat. A great example of such advertising was the foundation's reoccurring Christmas campaign. Just as had been the case with the advertisements for the meat conserves which were marketed as "perfect to take with you on your vacation" right before the summer holiday started, the foundation more often made smart use of holidays and season to advertise their products. Their Christmas campaign was, quite literally, the largest campaign of the foundation. The advertisements that were part of the campaign filled an entire newspaper page and pictured a large table filled with around ten different meat dishes and two children in the corner overlooking the table. The slogan of the holiday campaign was "Holidays are Meatdays" (*Feestdagen zijn vleesdagen*).⁸¹ What stands out from this "Holidays are meatdays" campaign is the overall feeling of the advertisements want to give the reader. The advertisement radiates a feeling of abundance.



Figure 3.2 Example of one of the "Holidays are Meatdays" advertisements. Source: *Nieuwblad van het Noorden*, November 12, 1962. Via Delpher

The tone of voice of this campaign fits the time frame the advertisements were published in very well. Between 1961 and 1975 the Netherlands went through a period of large scale welfare growth. The more, the better was the mantra of this period.

This overall welfare growth however started to stagnate halfway through the 1970's.⁸² This societal development again seems to have influenced the campaigns of the foundation. From the early 1970's onwards, a lot less advertisements were appeared in Delpher. The advertisements that were still getting published a lot less versatile in word and picture use. The period of abundance in the advertisements seemed to be over. "Meat ma'am, you know why" seemed to have become being the main representative advertisement of the foundation in this period. However, the fact that less and less advertisements were being published could also have to do with the introduction of both tv and radio commercials at this time, although it is unclear whether or not the foundation participated in these new forms of media.

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3.4.2 Meat industry influence made visible: Tuesday pork day

Next to healthy or tasty, meat also was often advertised for being cheap, affordable or providing good nutrition value for its relatively low price. The low price of meat was the main selling point of a 1971 campaign. With the slogan "Pork is now cheap!" the foundation published well over seventy advertisements in both regional and national newspapers to

⁸¹ "Feestdagen zijn vleesdagen," *Nieuwsblad van het Noorden*, November 12, 1962,

<https://tinyurl.com/3cr5vbkd>

⁸² Bos, Flach, N.G.A. van Solingen and den Hartog "85 jaar voedingsmiddelen advertenties," 152.

convince the reader to buy (more) pork.⁸³ Most of these advertisements contained recipes to make pork more attractive, such as porkchops with mushrooms and ham for example, or pork belly with sauerkraut and bacon for example. When this campaign ended after a few weeks, this pork specific advertising disappeared out of the campaigns of the foundation for a long time. Pork made a return in 1979, when the foundation introduced the concept of “Tuesday porkday” to the consumer. Advertisements picturing a happy looking pig pointing at the text “at that time, there is an extra-large supply of tasty pork” were printed in newspaper and magazines.⁸⁴

These pork related advertisements form an interesting case in the publication history of the foundation. Never before had they been advertising such a specific meat product. The advertisements usually only advertised meat itself, what part or animal that meat had to come from was not very often disclosed. In their annual report the foundation only explains that the goal of the campaign was to stimulate pork consumption, to let the consumer accept Tuesday as “pork day” and to make the consumer feel positive about pork.⁸⁵

However, upon further investigation, there in fact were very direct motivations for the pork related advertisement campaigns. As was stated in the introduction of this chapter, the foundation was a product of and ran by the meat industry. The foundation was a part of the Product Board for Cattle and Meat, which, among other things, functioned as advocacy group for the meat industry. When institutes active within the meat industry endured hardship, the Product Board tried to intervene.

Towards the end of the twentieth century, it happened multiple times that due to external factors (economic decline, sudden outbreaks of disease) a certain branch of the meat industry needed financial support. In 1974, the Product Board for Cattle and Meat reported on dire conditions on the Dutch pork market: prices were continuously lowering and endangering the continued existence of multiple pig farms and other pork related companies, such as slaughter houses and transport companies. To the frustration of the Product Board, neither the Dutch nor any



Figure 3.3 Example of one of the “Tuesday Porkday” advertisements. Source: *Algemeen Dagblad*, October 30, 1979. Via Delpher

⁸³ “Varkensvlees is nu goedkoop!,” *Het vrije volk: democratisch-socialistisch dagblad*, January 5, 1971, <https://tinyurl.com/3byth2wb>

⁸⁴ “Dinsdag varkensvleesdag,” *Algemeen Dagblad*, September 4, 1979, <https://tinyurl.com/mrxxympe>

⁸⁵ Annual report foundation Educational bureau for meat, meat products and canned meat 1979, box 2740, Archives of the Product Board for Livestock and Meat (PVV), 1956 - 2013; Product Board for Poultry and Eggs (PPE), 1956 - 2013; and the Joint Secretariat Product Boards for Livestock, Meat and Eggs (GS PVE), 1993 - 2013, National Archives, The Hague, The Netherlands.

European bodies of government wanted to intervene within the pork market to regulate these developments. The Product Board therefore saw it as their responsibility to help out the pork market, by allocating money to be spend on “extra propaganda” for pork. The name of the foundation Educational bureau for meat, meat products and canned meat is not directly mentioned by the Product board when they discuss the possibilities for this “extra propaganda”.⁸⁶ However, the reports of the foundation itself do report on the fact that they were gifted extra funds by the Product Board to published extra pork related advertisements. It is therefore safe to assume that the Product Board more often made use of the foundation to advertise for certain meat products in specific, to regulate the meat market.

3.5 Conclusion

In the past chapter, I have reviewed how the Dutch meat industry presented their product towards their public: the Dutch consumer, on the basis of analysis of advertisements as published based on ideas from the meat industry itself. From this analysis, I have come to the some preliminary conclusions.

The foundation clearly had one goal in mind, and that was to present meat in the best way possible. To achieve this, they would often use concepts and frames that were very “on trend” within the world of food advertising. Framing meat as “healthy” or “nutritious” was one of their favorite and most often used ways to advertise their product. Similarly to the strategies used by the research group, meat was framed as being full of vitamin b, minerals, protein, healthy acids and iron. Eating meat, as much as up to three times a day, would ensure the consumer of a perfect health. In the advertisement, these nutritious qualities of meat were often accompanied by statements on the great taste of meat, or its low price or endless variability. The advertisements of the campaign were also actively used to help out parts of the meat industry when they were enduring hardship. In the 1970’s, multiple pork related advertisements were published to boost pork consumption in the Netherlands and help out pork related business.

What can be made out from these facts? Most importantly, that even though the foundation was named “education bureau”, they had little or nothing to do with educating the consumer. Their goal was not to sketch out an honest picture of meat and let that the consumer decide on the basis of that picture whether or not they wanted to cooperate it in their diet. Instead of that, the foundation used every strategy they could get their hands on: during holidays they seized the opportunity to frame meat as the one ingredient that cannot miss from the dinner table, during summer vacation it was meat that had to be packed for the road. But also any other day was perfect as a meat day: meat had to be consumed three times a day to remain in perfect health or grow stronger, taller or faster. Just as had been the case with the research group for meat and meat products, the foundation functioned as an extension of the meat industry.

⁸⁶ Annual report Product Board for Cattle and Meat, 1974, box 427, Archives of the Product Board for Livestock and Meat (PVV), 1956 - 2013; Product Board for Poultry and Eggs (PPE), 1956 - 2013; and the Joint Secretariat Product Boards for Livestock, Meat and Eggs (GS PVE), 1993 - 2013, National Archives, The Hague, The Netherlands., Nationaal Archief.

Conclusion

In this thesis, I have illustrated and researched multiple developments in the Dutch meat industry in the second half of the twentieth century, specifically between 1960 and 1980. Over the last couple of decades, meat as a consumer product has taken on an important place within the Dutch diet and seems to have become an ubiquitous part a lot of daily lives. This is proven by recent developments within Dutch politics, when a proposal to levy extra tax on meat and meat products was met with a lot of resistance. Dutch politicians were not fond of the idea that meat would be “taken away” from the “average Dutch citizen”. This is an interesting development, especially when taking into account that only a little under one hundred years ago, meat was still seen as a luxury product and consumed only by those who could afford it.

With my thesis, I wanted to show how the Dutch meat industry managed to establish meat as such an important and indispensable part of Dutch culture and diet. I did so on the basis of three different perspectives: the Dutch meat industry “on the farm”, that covered the developments of livestock populations and agricultural institutions between 1960 and 1980, the Dutch meat industry “in the lab”, that covered the developments within the field of scientific research done about meat between 1960 and 1980 and the Dutch meat industry “in the public”, that covered the way that the meat industry presented their products towards their consumers between 1960 and 1980. These three perspectives together formed the core of this research.

Chapter 1 - On the farm: How did the meat industry develop between 1960 and 1980 and what made these developments possible?

Due to the influence of scientific inventions such as, amongst many other things, chemically designed fodder, the Dutch meat industry was able to grow in a past face during the second half of the twentieth century. Due to the fact that they did not have to use the largest part of their land to grow crops to feed their livestock anymore, farmers, from the early 1960's onwards, were able to keep more and more animals on their farms, leading to a large expansion of livestock populations in the Netherlands. However, the amount of farms did not increase. In fact, a contrary development took place: the amount of farms keeping livestock in the Netherlands declined heavily between 1960 and 1980. These two developments combined led to a heavy increase of the average amount of animals living on one farm in the Netherlands. At the same time that many farms were leaving the meat industry, many other institutes entered. During the 1960's and 1970's, the meat industry, on top of the developments already mentioned, went through a period of specialization. Farmers that before would do almost everything in house, including slaughtering, were now starting to outsource a large part of their labor. This led to many new parties entering into the industry, from transportation related companies to technological centers specialized in equipment used at slaughterhouses. Due to this process of specialization, the meat industry became a production column.

This overall growth of the meat industry had as a logical consequence that the meat production in the country increased. Many more animals were being slaughtered due to the increase of the livestock populations and the amount of facilities that could slaughter animals. What happened to all of that meat? Partly, it was consumed by Dutch inhabitants. The annual average meat consumption in the Netherlands increased just as the production did, however, at a much slower pace. Although both the consumption and production number rose, average meat production grew much very faster on an annual basis, with

overproduction of meat in the Netherlands already happening from the early 1950's onwards. The Netherlands had already been exporting meat since the early twentieth century, but with this influx of "left-over meat" the Dutch export could flourish like never before.

Chapter 2- In the lab: What did the scientific meat related research look like?

In the second chapter of this thesis, I illustrated how research into meat took shape in the second half of the twentieth century, through analysis of the archives of TNO's research group for meat and meat products, which was established during the 1950's.

Nutrition related research was an upcoming and important research field in the second half of the twentieth century. In 1940, an institute dedicated entirely to nutrition research was opened at TNO. The crises and world wars of the first half of the twentieth century limited the food supply of the Netherlands heavily and therefore scientific knowledge on how to maintain a proper diet with a small amount of produce was in high demand. In the second half of the twentieth century, nutrition research was still seen as important to teach Dutch citizens how to deal with the influx of unhealthy produce to prevent becoming fat.

Meat related research had a special position within the nutrition organization of TNO. The research group for meat and meat products was heavily influenced by the meat industry. This was evidenced by the different research institutes that were member of the group, most of them had a direct link to the meat industry. The nutrition related research of the research group was always positioned in quite a positive way, either measuring the amount of vitamins in different meat products or measuring how to maintain these vitamins throughout different cooking processes. A big part of their non-nutrition related research was about processes important to the meat industry. Slaughtering, transporting, keeping, breeding and cooking of animals and meat and did not necessarily relate to the health of the average meat consumer. In short, the research group, rather than working in service of academic nutrition or meat research rather worked to help the meat industry function better.

Chapter 3 - In the public: How was meat pictured in advertisements published in newspapers and magazines?

As has become very clear by now, the average annual meat production heavily increased between 1960 and 1980. A large part of the meat produced in the country was exported, but a significant part stayed in the country for consumption by Dutch inhabitants. In this chapter, I wanted to look for an answer to the question how the Dutch meat industry presented meat to the consumer to convince them of continuously buying more and more of it.

What became clear from the analysis of the advertisements published by the foundation Educational bureau for meat, meat products and canned meat is that a few characters that could be attributed to meat played an important role in the campaigns. One of the most important ones was to sell meat as "healthy" or "nutritious". Other selling points of meat that were often mentioned by the advertisers were how "tasty" meat was, how "versatile" the meat product were, how "quick" to prepare meat was, ideal for after a long day of work or how "cheap" or how much value you got for your money when you purchased meat. At times, the meat industry's influence became really clear. When certain areas of the meat industry endured hard times and governmental bodies did not want to

intervene, the product board ensured that they would receive extra support in the form of extra advertisements and thus higher sales levels. Although the name of the foundation would suggest otherwise, the advertisements functioned as nothing more and nothing less than a way to convince the consumer to buy more meat, and many tricks were used to convince them to do so.

The results of my research as discussed in the past three chapters comes together in the answer to my research question: how did the Dutch meat industry manage to successfully put meat in the market in the period between 1960 and 1980?

The growth of the meat production as discussed in the first chapter, made possible by the influence of the introduction of fodder, laid the foundations for the Dutch meat industry to start growing. The research done by the research group for meat and meat products made further growth possible: not only were they able to prove that meat was full of important nutrients and that meat products could keep up with new dietary related trends that came up in the 1960's and 1970's, they also made sure the industry was being kept up to date on the newest scientific innovations in the field of breeding and slaughtering of animals, the packaging and storing of all sorts of meat products and the newest ways to transport meat in a hygienic way. The foundation Educational bureau for meat, meat products and canned meat made sure that the message on meat was spread to the consumer, by continuously publishing advertisements about all the positive sides of meat: from nutrition value to taste and cheapness.

In short, between 1960 and 1980 the foundations were laid for the meat industry to grow as big and influential as it has become anno 2023. With an annual revenue of ten billion euros, the Netherlands has become a meat country. *Nederland Vleesland*, for that matter the 2022 campaign of the modern day Dutch meat industry was right. The question we should ask ourselves is whether or not that is a good thing.

Further research

In the process of coming up with a topic for this thesis and carrying out my research, I realized often that I was not able to cover all of the topics that could possibly be of interest for providing a full answer to my research question. Therefore, I want to finish this thesis by making some suggestions for further research into the developments of the Dutch meat industry in the second half of the twentieth century.

Meat and politics

In my thesis, I have spent little to no attention on political developments. The Dutch government however had quite a large role in the making possible of the growth of the agricultural sector in the second half of the twentieth century, both in terms of funding but and implementation of laws and regulations that allowed the agricultural industry to grow in the way it did. I think it would be interesting to see how these laws and fundings came about: what political parties lobbied for the industry and how did this influence the developments of the agricultural sector?

Meat and anti-meat movements

Already in the nineteenth century, vegetarian movements created a voice against meat consumption, with the use pamphlets and other publications. I would find it interesting to

see the response of the vegetarian movements on the growth of the Dutch meat industry of the twentieth century and to see their stance on nutrition and maintaining a complete diet without meat. What did they pose as alternatives and how did they interact with the meat industry? Did they convince a lot of people to stop eating meat? Did they also set up large scale advertising campaigns?

Meat and money

As hopefully became clear from this thesis, many parties were involved in the Dutch meat industry and, as the industry grew, the amount of money within that industry grew along with it. As discussed before, anno 2022 the Dutch meat industry had a revenue of 10 billion euros. However, what also became clear from this thesis is that a lot of projects were funded by large actors within the meat industry, as was the case with the Product Board for Meat and Cattle in the 1960's and 1970's. I think it would be interesting to zoom in on the flowing of these funds and see in what kind of different projects money could end up.

International trends

The Netherlands has one of the largest meat industries of the Western world. I think it would be very interesting to compare the developments of other national meat industries to the development of the Dutch industry. This could show if international meat industries went through a similar period of explosive growth and if they had similar institutes such as the research group for meat and meat products and the advertisement foundation. Comparison to international meat industries could also help define how it is possible that the meat industry grew as large as it did in the Netherlands.

Addenda

I. The statistics used in chapter one

All statistics used in the first chapter are derived from the data website for the Dutch centre for statistics, Statistics Netherlands.

For the full spreadsheet including all the data, see:

<https://docs.google.com/spreadsheets/d/1wVGzMPjmDKnBkVnGJhSnEKq1zImgHKdhdGVAzCAvKuc/edit?usp=sharing>

A few things have to be stated about the use of these statistics:

- Most the numbers used are directly imported from the website for Dutch statistics, www.statline.nl. However, give some of the statistics a new perspective I calculated some data myself, for example the total meat consumption (by multiplying the average consumption per person by the total size of the population and dividing that number by 2) used for the tables in paragraph 1.2.
- To calculate the average consumption of meat of the entire Dutch population, I multiplied the average consumption, as provided by Statistics Netherlands in their data, by the entire Dutch population. As I stated in a footnote, this is not an entirely accurate number since also newborns and young children are included in the population number, who of course on average consume much less than adults. The real total consumption number therefore must have been a bit lower than stated in this dataset.

II. The dataset used for analysis of the meat related advertising in chapter three

As explained earlier, I used online database Delpher to access all of the advertisements.

For the full spreadsheet containing all the advertisements I used for my analysis, see:

<https://docs.google.com/spreadsheets/d/1GE1d9H1F0QS0kCU1FjLg6Ot9UNHD7u4Xz2Otmglac14/edit#gid=1269708703&fvid=253183788>

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And around 1.000 (not individual) advertisements published by the foundation Educational bureau for meat, meat products and canned meat, found on www.delpher.nl with use of keywords

"voorlichtingsbureau vlees" and "stichting voorlichting vlees"

Images

Front page image: Poster “Vlees mevrouw, u weet best waarom.”, Poster collection Delpher, accessed February 27, 2022.

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Figure 2.1, the first *Schijf van Vijf*. Van der Meijden, Suzanne. “A Critical History of Nutrition Education in the Netherlands (1900 – 2000): Shifting responsibilities and conflicting interests. Msc. Thesis Utrecht University, 2015, 18.

Figure 3.1. One of the first advertisements published by the foundation. Algemeen Dagblad. Published on October 3, 1961.

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Figure 3.2 Example of one of the “Holidays are Meatdays” advertisements. Source: Nieuwblad van het Noorden. Published on November 12, 1962.

https://www.delpher.nl/nl/kranten/view?coll=ddd&query=%22voorlichtingsbureau+vlees%22&cql%5B%5D=%28date+_gte_+%2201-01-1960%22%29&cql%5B%5D=%28date+_lte_+%2231-12-1979%22%29&cql%5B%5D=%28DelpherPublicationDate+_gte_+%2201-01-2013%22%29&redirect=true&sortfield=date&page=3&maxperpage=10&identifier=ddd:010889469:mpeg21:a0085&resultsidentifier=ddd:010889469:mpeg21:a0085&rowid=2

Figure 3.3 Example of one of the “Tuesday Porkday” advertisements. Source: Algemeen Dagblad. Published October 30, 1979.

https://www.delpher.nl/nl/kranten/view?query=%22voorlichtingsbureau+vlees%22&page=77&maxperpage=10&sortfield=date&cql%5B%5D=%28date+_gte_+%2201-01-1960%22%29&cql%5B%5D=%28date+_lte_+%2231-12-1979%22%29&cql%5B%5D=%28DelpherPublicationDate+_gte_+%2201-01-2013%22%29&coll=ddd&redirect=true&identifier=KBPERS01:002961026:mpeg21:a00014&resultsidentifier=KBPERS01:002961026:mpeg21:a00014&rowid=6