

THE FUTURE IS A SWEET DREAM

Sugar production in Scania c. 1800-1930

Fredrik Björk

...the commodities that feed, clothe, and shelter us are among our most basic connections to the natural world. If we wish to understand the ecological consequences of our own lives – if we wish to take political and moral responsibility for these consequences – we must reconstruct the linkages between the commodities of our economy and the resources of our ecosystem.¹

William Cronon

This text deals with the beet-sugar production breakthrough in Sweden and Denmark from c.1850 to the 1930s, arguably one of the most important factors behind the increasing industrialization of the human food supply in this part of the world. In Sweden, sugar was one of the first industrially produced foods, and it changed rather quickly from luxury to staple food. The sugar industry was considered as one of the worst industrial pollutants of its time, and was organized in a few, large companies. It also pioneered in using genetics and other sciences to increase production. All these aspects are relevant in the contemporary debate on food production, and looking at the development of Swedish sugar might be a useful way of understanding the processes that helped to shape the patterns of consumption and production that we have today.

In the nineteenth century, the consumption of sugar increased rapidly in many countries, in large part due to increased consumption of tea, coffee and cocoa.

The British consumption was by far the highest per capita in Europe, but towards the end of the century, consumption in several other

countries almost reached the British level. In Sweden, the annual per capita consumption of sugar increased from about 1,5 kilograms in the 1820s, to more than 20 kilograms by the turn of the century.² As a consequence sugar became one of the most important sources of energy in popular food. A few decades into the twentieth century it made up about one fifth of the total energy content. Some claimed that this was a natural process in all civilized countries,³ one aspect of how the increased wealth in societies led to greater expectations from life.⁴

THE EARLY YEARS

In 1812 the first successful attempt to make sugar from sugar beets was carried out in Sweden. The enterprise did not solely rely on the production of beet-sugar for its financial survival, but aimed for large-scale production of rum from molasses and waste products of the sugar production. When privately owned distilleries were prohibited, the business failed. Other attempts included potatoes and carrots as raw material for sugar production. Government agencies were indifferent to the demands for financial support in general, and the projects failed to materialize.⁵

In the 1850s, The Royal Swedish Academy for Agriculture and Forestry (KSLA) initiated a campaign to promote sugar beet cultivation. The production of beet-sugar was viewed as a means to improve the financial situation for farmers. This was to be done by encouraging a small-scale agrarian based sugar industry, owned by local farmers. KSLA's experimental growing of sugar beets, in order to improve size and sugar content, supported the propaganda. For the beet-sugar industry, the small size of sugar beets and their low sugar content had been a constant difficulty. But the results were not conclusive and the campaign did not lead to the establishment of a sugar-beet industry that could survive on its own. All of the beet-sugar enterprises that were initiated during this period failed except one: Skånska Sockerfabriken, located in the fast-growing industrial city of Landskrona.⁶

The company was formed in 1853, with most of the capital supplied by leading merchants and industrialists. It was evident that the necessary competence for beet-sugar production could not be found in Sweden, and German experts were hired. This was a common pheno-

mena of the Swedish beet-sugar industry in the latter part of the 19th century. Skånska Sockerfabriken planned to grow most of their sugar beets on farms operated by the company itself, a strategy that gave the company increased control over beet-growing conditions. To secure the volume and quality of beets grown by farmers outside of company control, beet-growing contracts were issued, in which the conditions for cultivation were stipulated. The company grew about sixty percent of the sugar beets needed for production at their own estate, Säbyholm, which was run as a model farm. At Säbyholm, chemical fertilizers were used extensively already in the 1850s, and experiments to optimize growing conditions were conducted. The results were then used to elaborate the contracts with sugar-beet farmers.⁷

For almost two decades, this was the only beet-sugar factory in Sweden. Production faced numerous problems, but the strong financial position of the company and close relations to important industrial and financial actors ensured the survival of the company.⁸

BREAKTHROUGH

In the early 1880s, the struggle between advocates of free trade and those who favoured protectionism entered a new phase. Agricultural exports to Britain deteriorated, and the Swedish parliament decided to adapt a more protectionist sugar policy. With the more protectionist sugar policy that manifested itself with the tariffs imposed on imported sugar from the 1880s, the incentive for beet-sugar production increased and new beet sugar enterprises grew out of nowhere. Between 1838 and 1881, thirteen sugar factories (sugar mills and refineries) were established. In the period up to the turn of the century another twenty-one were built, and in the year 1894 alone seven factories saw daylight for the first time. In fifteen years, almost all the sugar that was consumed in Sweden was beet-sugar. In 1870, only about ten percent of the sugar used in Swedish refineries had grown in Sweden, in 1895 more than ninety percent came from Swedish sources. The beet-sugar production increased from less than 1 000 tons in 1879, to 20 000 tons 1890. In 1896, production exceeded 100 000 tons.⁹

It is evident that we can see several changes in this period. In the early years of the nineteenth century the entrepreneurs worked on a

smaller scale and this was also the strategy that was promoted by KSLA in the mid-century. But when Skånska Sockerfabriks AB managed to sustain operations over a longer period of time, they had the support of important agricultural, industrial and merchant capital. One of the founders of this company, Frans Henrik Kockum, was a leading industrialist in southern Sweden. His company, Kockums, was one of the largest mechanical industries in southern Sweden, providing the rapidly growing railway network with railway carriages, among other things. Kockums soon also became a prominent producer of machinery for the Swedish sugar industry, with 1896 sales reaching nearly one million *kronor*. This integration of capital based in different contexts made the company strong financially, but in time also made the company a powerful political actor.¹⁰

There were also differences in scale. Some of the sugar refineries that operated up to the 1850s had a more artisan structure and it was not uncommon to use animals as power sources. In 1912, most sugar refineries in Sweden had more than 300 workers employed on an annual average basis, while the sugar mills averaging about 100 workers annually could have their work force expanded to more than 400 at harvest time. Animals were now replaced by steam as the main power source.¹¹

ENERGY AND FERTILIZER

For the early beet sugar industry, the low sugar content of the beets was a major problem. For this, the industry mostly blamed the farmers. To achieve a sugar beet that met the requirements of the modern food industry of the 1880s, it was not enough to use traditional methods. The land needed more thorough cultivation and weeding to prevent the slender plants from withering away. More work had to be invested in agriculture if the growing of sugar beets was to be successful, a fact that named the sugar-beet “The farmers disciplinarian”. But most of all, the sugar-beets needed fertilizer. From 1880 to 1895, the import of chemical fertilizers quadrupled, and nowhere was the use more widespread than in Malmöhus (the south-western part of Scania), where about three quarters of the Swedish sugar beets were grown. Here the use of chemical fertilizers was almost double the Swedish average at

the beginning of the twentieth century.¹² Manure was of course still used commonly to grow sugar beets, but the contracts with sugar beet farmers expressively forbid the use of *pudrett*, at the time the most common form of fertilizer of human origin.¹³

The production of beet-sugar also placed high demands on the transport system, thanks to the large amount of raw materials that was used in the industrial process, not only sugar beets, but also significant amounts of lime and coal. For every pound of sugar that was produced in 1875, up to four pounds of coal were used in the factories. Although the development of the production process and the substitution of coal with electricity for some uses led to a significant reduction in the demand for coal, the 1930 beet-sugar production of 188 000 tons demanded almost 100 000 tons of coal.¹⁴ The expansion of the railway system thus became of great importance for the beet-sugar industry, and new factories were either localized in the proximity of existing railways, or else a new railway was built. More often than not, they were also operated by the beet-sugar industry. By the turn of the century, Scania probably had the densest railway network in northern Europe, largely thanks to the booming beet-sugar industry.¹⁵

'A CHAPTER IN THE HISTORY OF ROBBERY'

In 1913 Gustaf Möller published a pamphlet that criticized the sugar industry and their contemporary political allies. The subtitle, "A chapter in the history of robbery", indicates how the sugar industry is portrayed in this text.¹⁶ At the time, Möller was a leading young social democrat, mostly active in the publishing activities of the party. In the early years he wrote in the influential newspapers *Arbetet* and *Skånska Socialdemokraten*, and went on to become manager of the party's publishing house, *Tiden*, in 1912. Later he was appointed minister for Health and Social Affairs four times between 1924 and 1951 and has been described as one of the foremost social democratic leaders and ideologists in Sweden.¹⁷

Harsh language between social democrats and the representatives of monopoly capitalism was certainly not very spectacular in the early 20th century. But behind the rhetoric was a critique that had a much wider support.

Fear of falling prices as a result of the rapidly increasing production in the 1890s led to the forming of a cartel that contained almost the entire Swedish sugar industry. In 1907 this cartel was transformed into SSA (Svenska sockerfabriks aktiebolaget) and accounted for ninety-seven per cent of the Swedish sugar production.¹⁸

The critique that was directed at the sugar industry focused on the huge profits of SSA. In the early decades of the twentieth century there was a significant interest in "the social question" and in 1912 *Socialstyrelsen* (The national board for welfare) was created. The cost of living was one of the major issues, and to investigate these was one of the first tasks for the new organisation. But it was not the cost of living in general that was in focus – it was the cost of living for the working class and their families. Earlier on, studies of this kind had been made locally – in Stockholm, and in other countries such as Austria and Denmark. *Socialstyrelsen* referred to these earlier studies, and also used the Austrian matrix in the Swedish investigation.¹⁹ For Gustav Möller and the social democratic party, there was no reason to wait for the results of the investigation. The cost of living for Swedish workers was too high, and they had the only remedy: The reduction or total removal of tariffs on imported food is the only way that the cost of living can be forced down, Möller argued. The SSA was a primary target of the Social Democratic critique. Between 1907 and 1912 profits averaged close to 30 per cent on the capital stock, and the high tariffs ensured SSA an almost total monopoly.²⁰

But the sugar industry was not only in conflict at the consumer end – it also had trouble with its raw material suppliers. From 1899 the sugar beet farmers started to organise themselves locally, and in 1904 the organisations in Scania, which is the major beet-growing district in Sweden, merged into a more centralised, effective organisation. From now on the beet farmers organisation demanded that negotiations should be made with the organisation, and not with the individual farmer. When the political conflict on sugar tariffs 1912-1913 escalated²¹, the beet farmers refused to sign an agreement. In the end, pressure from the Social Democratic opposition to lower tariffs and from beet farmers as well as the sugar industry to keep them up, led to a compromise with only a small – symbolic – reduction in sugar tariffs. But the compromise included three conditions: 1) The sugar industry and the beet farmers should make a five year agreement, 2) The sugar industry was to guarantee that beet cultivation could continue in the districts that supplied the factories, 3) The sugar industry was not allowed to

compensate the lower tariff with higher consumer prices; most of the financial consequences was to fall on the sugar industry, but beet farmers was also to take some of the cost.²²

In Sweden, the intercourse between politics and sugar had variations in structure and intensity from the 1830s and on. But from the beginning of the twentieth century relations became closer. One sign of the importance that the industry allocated to politics is that when SSA was formed in 1907, company headquarters was placed in Stockholm, hundreds of kilometers from Scania, where the company had its major operations.²³ After the 1913 compromise, the Swedish government from now on would be an ever-present actor in what we could call the sugar system – from cultivation to production and consumption. *Kartell- och trustredningen*,²⁴ the investigation where the original proposition for tariff cuts emanated from, had some ambition to look at cultivation as well as production. Consumption was not in focus here, but it had a silent presence. From now on there would be numerous public investigations (*Statens offentliga utredningar, SOU*) about sugar – regarding all three of these aspects.²⁵

When formed, SSA was Sweden's largest company, both in the numbers employed and in production value. Sugar beet growing employed c.100 000 labourers, and seasonal labour migration to the sugar-beet districts was common. This was needed to keep up with the rising demand for sugar, which by the 1930s reached about 50 kilograms per capita.²⁶

SUGAR AND SCIENCE

One way to control nature, of course, was to buy it. But to control the natural processes that influenced the size and sugar content of the sugar beet, was something completely different. In early years of the twentieth century, SSA set up an experimental station at Säbyholm sugar factory, in order to produce a sugar-beet variety that met the industrial requirements. From the very beginning, the work was done according to modern scientific principles, and genetic research became an important part of the company's effort to raise yields. The sugar-beet variety that this research resulted in was smaller in size, but had considerable higher sugar content.²⁷

But science also played a role in defining the changing social and cultural meaning of sugar. The narrative of the transformation of sugar from luxury to staple food was a cornerstone of the sugar industry's propaganda. In this narrative, science and technology played vital roles in what was described as "the refinement of nature",²⁸ and the fact that sugar was an industrial product was emphasized in the advertisements.

The very idea to use beets as raw material for sugar production had from the beginning strong links to the scientific community. In 1812 Carl Agardh wrote the first dissertation in Swedish where the production of sugar from beets was discussed. In this text, Agardh not only had the industrial procedures in focus, but also had something to say about beet cultivation.²⁹

Further on in the nineteenth century, scientists linked to the Royal Academy for Agriculture were engaged in promoting the cultivation of sugar beets, as well as conducting experiments to find the optimum conditions for beet cultivation. The arguments for beet cultivation were also to some extent linked to agricultural chemistry. Alexander Müller, one of the first agricultural chemists in Sweden³⁰, argued that the substances that were extracted from the beets in the industrial process were the kind of nutrients that the beets collected from the atmosphere: carbon, hydrogen and oxygen. Nitrogen and minerals were also needed in the fertilizer that was required, for sure, but these were later retrieved from the industrial waste, since these elements were not found in the refined product. In this way, Müller argued, both the farmers and the industrialists could make a profit from the land without reducing its productive capacity.³¹

As mentioned earlier, the low sugar content of the beets was considered to be a major problem by the sugar industry. Apart from blaming the farmers, some blame was also put on the seeds. Almost all seeds were purchased from Germany, and, argued the sugar industry, adapted to European continental climate. Already in the very first years of the 20th century, some experiments were conducted at Säbyholm sugar factory, just outside of Landskrona. Soon, however, it was transferred to nearby Hilleshög, where it became more firmly institutionalized, especially after 1912. As manager, the Dutch chemist Claes Tjebbes was hired. With some intermissions, he led the institution up to his death in 1935. From the very beginning, the work was conducted according to scientific methods and the strains that WWI put on the sugar industry highlighted the need for domestic production of seeds.³²

From the early 1920s, the seeds that were produced at Hilleshög covered the national demand and the work focused on producing a variety that to a greater extent was adapted to Swedish climate, and with a higher percentage of sugar. In 1928 the new beet variety, "Hilleshög", was ready for large scale cultivation. Not far from Hilleshög, seeds were also produced by a competing institution in Svalöv. The director here, the well-known genetic scientist Herman Nilsson-Ehle, argued that only domestic seeds should be used in Swedish beet cultivation. It has been argued that this argumentation also served to gain the breakthrough of the "Hilleshög" variety. Though this variety had been made for the Swedish climate, it actually had some success abroad and SSA created a foreign branch to supply these markets with seeds.³³

Genetics was a new science to be used by the sugar industry, but it was not the only one. Agricultural science had a considerable importance for the beet sugar breakthrough in the 19th century, and achieved new importance in the early 1920s. The reason for this action was an ambition to be able to predict the beet harvest more accurately. In the annual reports of SSA in the late 1910s and early 1920s the frustration that harvests are so difficult to predict is clearly evident. Also, in the years from 1915 to 1920 the beet harvest in tons per hectare was falling continuously. Something had to be done, and this led to that the biologist and botanist Olof Arrhenius was hired in 1923 to organise soil surveys of the soils cultivated by the farmers.³⁴

The composition of the soil had for many years been known to influence the size and sugar content of the sugar-beet, and considerable research had been done in this field. Arrhenius was of the opinion that the nitrogen, calcium and phosphate content of the soil were crucial in determining the size and sugar content of the sugar beets. But experiments also showed that this was only true to a certain level, so the addition of chemical fertilizers with high phosphate content was only effective to a certain degree. Since the use of chemical fertilizers were considerable in sugar-beet farming, and represented a significant part of the production costs, this was an issue that needed to be addressed.³⁵

At first, a preliminary survey dealt only with the pH of the soil, but in time it was found necessary to investigate other factors. As a result of this, a special survey of all beet soils in Scania was decided upon, dealing with soil-reaction, the content of soluble phosphoric acid, the nitrate production and finally the chlorine content. The survey covered a vast area – almost half a million hectares – and the samples were taken to a new laboratory in Staffanstorp. The results of the phosphate survey

were finally published in a "phosphate-map" over Scania.³⁶ For the scientists, the background of the considerable variation of phosphate content and the link to human activity was evident

Man has been able to change the phosphate content of the soil very considerably. During the stone age, fishing and hunting was his chief means of living. All waste, bones especially, remained around and in the huts, and in this way the soil became very rich in phosphates... Later on, when man turned farmer, this concentration of nutrients was carried out on a much greater scale and more intensively.³⁷

The results of the survey were distributed to the farmers with instructions where and how to apply the phosphate fertilizer and could also be used to examine areas where the harvests were either especially high or especially low.³⁸

This marked the beginning of a strategy that was based on the distribution of scientific results from SSA to the farmers. A serial publication, called *Odlarmeddelanden* was used as a vehicle for this transfer of scientific knowledge. It was distributed to all farmers who were cultivating beets on contract with SSA.

From the early 1920s, beet inspectors were hired to collect statistical data on the beet cultivation, such as the amount of fertilizers that were applied, drainage etc. To facilitate the compilation of these data, a special department was created, *Sockerbolagets statistiska byrå*, that worked closely together with the central laboratory at Staffanstorp.³⁹

THE POLITICS OF SUGAR 1914-1932

As mentioned earlier, sugar became an important political issue from the 1913 agreement on. A tentative periodization of the period from 1914-1940 could look something like this: 1914-1922 State regulation (War economy), 1922-1932 Stagnation and conflict

Obviously, Swedish sugar politics is a vast subject. For this reason, I will in this text make a few comments on the sugar politics that were more or less directly related to beet cultivation.

When WWI hit Europe, the sugar industry initially seemed to be in a favourable situation. By using mostly domestic raw materials, the perils of war were not threatening for the sugar industry. There was

one exception, however. Coal was used in great quantities by the sugar industry, and domestic resources were scarce. In order to maintain the level of production, SSA made the Swedish government make arrangements in London, to secure the level of Swedish sugar production. But there were more to come. In the years before the war beet harvests were larger than predicted, and SSA actually applied for permission to export sugar to Norway in 1915, calculating with a large surplus. But the 1915 harvest failed, and the warehouses were quickly emptied. The hardships with coal availability as well as rising prices for farm labour led to rapid reduction of sugar production in 1917. Already in november 1916, the government had initiated sugar rationing, and the falling production in 1917 made the government intervene, creating a stable state-guaranteed agreement where the price of beets as well as the price of retail sugar was fixed. This regulation continued until 1922, and led to an increase in the area used for sugar cultivation.⁴⁰

The period from 1922 to the next sugar regulation, in 1932, was filled with conflicts and uncertainty. SSAs uncompromising policies of reducing their raw material cost led to continuous conflicts. Both in 1922 and in 1926 the beet farmers and SSA were unable to make agreements, and in the conflict 1926 almost no beets were cultivated in Sweden.⁴¹

This continued until the 1932 sugar regulation, where among other things the price of sugar beets, minimum wages for farm labour and the price of retail sugar was to be fixed in yearly negotiations between the government and the sugar industry. Even though the Social Democrats in opposition opposed it, this regulation can be seen as a precursor to the 1933 "horse-trade" (actually in Swedish *Kohandel* – Cow-trade) agreement where the agricultural crisis as well as the high unemployment were addressed. The *Kohandel* was a major political deal between the Social Democrats and the Agrarian Party. The leading negotiator for the Agrarian Party, Bramstorp, was also chairman of the Scanian sugar-beet farmers organisation and had been instrumental in creating the 1932 sugar regulation.⁴²

CONSUMING SUGAR

1934 a booklet called *Sugar – our most inexpensive food* was distributed in secondary schools. Written by Iwan Bolin, who was a chemist and had written books on nutrition, the booklet was published by SSA and reprinted several times in large editions. "Sugar makes it possible for us to absorb the sun's life-giving powers in a convenient way",⁴³ Bolin argued. The booklet also carried such headlines as "How to economize by increasing your consumption of sugar"⁴⁴ and "Sugar dose not harm your teeth".⁴⁵ But there would be trouble in paradise.

SSA marketing manager Ståhlbrandt had to inform the board that attacks were aimed at sugar by the Swedish health and sports association, and above all, by its foremost speaker, Are Waerland. "Their attitude is altogether negative and concludes in a categorical appeal to cut down the consumption of sugar."⁴⁶ Ståhlbrandt considered Waerland and his movement to be a real threat to the sugar industry, since "They are many thousands...large numbers of young people have rallied to the support of the movement."⁴⁷

In 1938 Are Waerland published *Death to the white sugar, life to the white peoples*,⁴⁸ a booklet that argued for a drastic cut in the consumption of sugar, arguing that the sugar produced by the modern food industry was a "witches brew made by chemists"⁴⁹ and a driving force in "the funeral march of civilization"⁵⁰. Arguing that industrialization and commercialization had now completely taken control over food production, he predicted the ruin of what he called *our Nordic peoples*. Refined sugar also, Waerland argued, leads to depression, desire for unnatural stimulants and unsound pleasures. Several editions of this text were printed, and a translation into Norwegian was done. Waerland anticipated a "giant struggle...[between]... truth and capital ...[that will]... shake all civilized societies in their foundation."⁵¹

One of the principal targets for Waerlands critique were the scientists that worked for the food industry. According to Waerland, they lacked the ability to think other than in scientific terms and had become financially dependent of the industry – a critique that was pointed straight at Bolin. But Waerland was not entirely out of sympathy for scientists; all his arguments were actually based on statements by scientists, mostly medical doctors – a fact he also emphasized.⁵²

Bolin's brochure was used as the pedagogic framework for the 1938 production of *Sockerskrinet* (The sugar case), one of the most impressive propaganda achievements of the Swedish sugar industry.

This full-length movie mixed documentary scenes from the beet sugar production process with fiction; A romantic story of a newly married couple, who decides to study the Swedish beet sugar production on their honeymoon. The screenplay was written by experienced authors, well-known actors played the leading parts, and the movie became an improbable success. Over a period of five years, more than half a million Swedes saw the movie.⁵³

SWEET DREAMS

During the period discussed in this text, profound changes in the social, economical and ecological relations took place. The development of new technical processes, an expansion of the communication system and the introduction of fossil fuels triggered the breakthrough of beet-sugar.

Due to the large amounts of energy that was needed in the industrial process, it was necessary that energy was not only readily available, but also that it was cheap. The resulting product, sugar, was also cheap. It was so cheap, that it was the cheapest source of energy in food, from the beginning of the twentieth century. But the total energy content of the sugar produced was of course much less than the amount of energy that, mostly in the form of coal, was used in the industrial process. The major part of this energy came out of the process as heat. In fact, the sugar factories in Sweden were considered environmental problems as early as the beginning of the twentieth century, since the large amounts of cooling water dispersed caused widespread death of fish.⁵⁴

In 1924, SSA complained of the difficulties in predicting the sugar-beet harvest, as well as the sugar consumption. But they did not give up trying. The use of science to control natural processes became important and was fundamental to a company that looked upon itself as modern and progressive. In the 1920s, beet-sugar was marketed as “one of the purest products, that Swedish industry can manufacture.”⁵⁵ Science, and belief in the future, was important parts of the sugar industry’s production strategy, as well as the narrative that encompassed the sugar that was put on the market.

NOTES

- 1 William Cronon, *Natures Metropolis: Chicago and the Great West*, New York and London 1991, p. xvii.
- 2 LaLu, SSA Archives, F6:13, Report on the beet-sugar industry 1873/74 and 1874/75 to the ministry of finance, by *Överkontrollör* Billgren, F2E:1, Background material for the official report on the sugar industry 1913.
- 3 *Skånska Korrespondenten*, 29 oct. 1838.
- 4 H.L.O. Winberg, "Betsockerindustrien", *Skrifter utgivna av de skånska hushållningsällskapen med anledning av deras hundraårsjubileum 1914. X. 4. Industrigrenar som beröra jordbruket*, Lund 1920, p.9-11,
- 5 LaLu, SSA Archives, F6:14, Eilif Sylwan, *Den svenska betsockerindustrien I. Före Svenska Sockerfabriks Aktiebolagets bildande 1907*. Malmö 1932, p.23-25.
- 6 Erland Mårald, *Jordens kretslopp. Lantbruket, staden och den kemiska vetenskapen 1840–1910*. Umeå 2000, p.205-207, Sylwan, p.133.
- 7 LaLu, SSA Archives, F6:14, Jean-Paul Darphin, *Sockrets katedraller. En studie av sockerindustrins historia och arkitektur*. Stockholm 1994, p.176-178; Sylwan, p.77-79, 86-89, 99-100, 138-146, Jan Kuuse, *SSA Cardo 1907-1982*. Malmö 1982, p.27–31, Arvid Zachrisson, *Gödsling och jordförbättring i Skåne från 1800-talets början till nuvarande tid*, Lund 1914, p.22-23.
- 8 The fact that a beet-sugar factory could operate in Sweden, was used as an argument to promote the Danish beet-sugar industry. In the 1870s and 1880s, Danish beet-sugar production grew, and favoured labour migration from Sweden. On Lolland-Falster, Swedish "roepiger" made up a significant part of the work force and at the beet-sugar factory in Nykøbing, one fifth of the work force were Swedes in 1884. P. P. Sveistrup and Richard Willerslev, *Den danske sukkerhandels og sukkerproduktions historie*, København 1945, p.#, Richard Willerslev, *Den glemte indvandring til Danmark 1850-1914*, København 1983.
- 9 Sylwan, p.167-170, LuLa, SSA Archive, F2E:1, Internal production statistics.
- 10 Lars Berggren, *Ångvisslan och brickornas värld. Om arbete och facklig organisering vid Kockums Mekaniska Verkstad och Carl Lunds fabrik i Malmö 1840-1905*. Malmö 1991, p.59-63. There were also involvement on a local political level. In Landskrona, when he was director of Skånska Sockerfabriks Aktiebolaget, Carl Tranchell was chairman of the city council from 1901 to 1905. See also Lars I. Andersson, *Tradition och förändring : Den skånska högern i dess borgerliga omgivning 1928-1936*, Uppsala 2003.
- 11 *Kartell- och trustutredningen. I*, Stockholm 1913.
- 12 RALu, SSA Archives, F7AA:3.

- Beet sugar contracts 1891, *Historisk statistik för Sverige*, p.77, 199-200., Kuuse, p.103-105, Mårald, p.205, Zachrisson, p.53. Manure was of course still used commonly in beet cultivation, but the contracts with farmers expressively forbid the use of poudrett.
- 13 LaLu, SSA Archives, F7AA:3. Beet-sugar contracts 1891, F2E:1. Background statistics for official reports, *Historisk statistik för Sverige*, p.77, 199-200., Kuuse, p.103-105, Ola Wetterberg and Gunilla Axelsson, *Smutsiguld och dödligt hot. Renhållning och återvinning i Göteborg 1864-1930*, Göteborg 1995, p.76-77.
- 14 LaLu, SSA Archives, F6:14. Report on the beet-sugar industry 1874/75 to the ministry of finance, by *Överkontrollör* Billgren, A1:A1. Reports by the board of directors, B6BB:11. Internal production statistics, Darphin, p.40, Kuuse, p.115.
- 15 Kuuse, p.115-116.
- 16 Gustaf Möller, *Sockertrusten avslöjad! Ett kapitel ur rofferiets historia*, Stockholm 1913. Möller was not alone in this; Fabian Månsson, another leading social democrat, published *Socker-ockret* (The sugar usury) also in 1913.
- 17 *Nationalencyklopedin: Gustaf Möller*
- 18 Jan Kuuse, *Sockerbolaget Cardo 1907-1982*, Malmö 1982, p. 33-56.
- 19 Yvonne Hirdman, *Magfrågan. Mat som mål och medel Stockholm 1870-1920*. Stockholm 1984, *Levnadskostnaderna i Sverige 1913/14:3. Hushållsräkenskaper*, Stockholm 1913.
- 20 The price of sugar in Sweden was about 30 per cent higher than in Denmark in the first decade of the 20th century.
- 21 In the first decades of the 20th century, military defense matters were the most important issue, and food tariffs were not in focus. But in 1913 the political discussion on military defence became more relaxed, and other issues came to the surface. On the face of it, the question of sugar tariffs seemed not to be very controversial: the highly animated discussion only concerned about 10 percent of the sugar price to the consumer. But it was important as a symbolic principle: the state tariff system made the working class consumers pay for the huge profits of the industrial capitalists, according to social democratic argumentation.
- 22 Kuuse, s.62-67.
- 23 Idem, s.56. However, SSA moved its headquarters to Malmö in 1923, as one of the parts in a process to make structures and methods within the company more uniform and co-ordinated. Idem, s.84-85.
- 24 *Kartell- och trustutredningen. I*, Stockholm 1913.
- 25 The resulting propositions from *Kartell- och trustutredningen*, which came in early 1913, was the starting point of the political debate.
- 26 LaLu, SSA Archives A1B:1, Reports by the board of directors 1907-1940, E4:2. Documents on *Spetsbergens svenska kolfält AB*, Kuuse, s. #
- 27 In 1912, operations were moved to Hilleshög, and Klas Tjebbes, a Dutch scientist, was appointed manager. LaLu SSA Archives, B5CA:1, *Odlarmeddelanden* (Information to planters).
- 28 LaLu, SSA Archives, B5CA:1, *Odlarmeddelanden*.
- 29 Carl A. Agardh, *Afhandling om Foderbetans användande till Socker*,

- Lund 1812.
- 30 Müller was actually German.
- 31 Mårald, p.205-206.
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