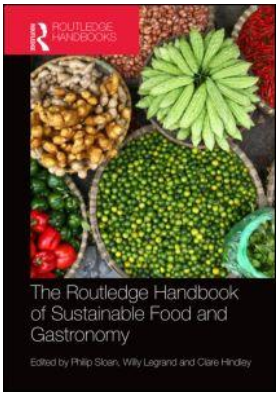

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Reducing the Food Miles

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REDUCING THE FOOD MILES
Locavorism and seasonal eating

Jan Arend Schulp

Introduction

Today, most consumers eat food that has travelled far to their plate. The 'food mile' is a measure for the travel distance from farm to plate. Transport from all over the world uses up fossil fuels and adds to the CO_2 emissions. Causing food miles, therefore, adds to one's ecological footprint (Martinez et al., 2010; Rees, 1992). On the other hand, the environmental impact depends on more variables than just distance (Pirog and Benjamin, 2003); the food mile concept is not as straightforward as it looks at first sight!

The alternative for eating foods from far away is: eating the food grown nearby, the *local* food: being a *locavore*. In this chapter, the possibilities and the limitations of locavorism will be explored. The focus will be on the Netherlands, and to a lesser extent on Germany. The chapter opens with some examples in food retailing and restaurants at the high end of the market.

Locavorism: some examples from the high end of the market

In the Netherlands and in Western Europe in general 'eating locally' is on the increase, at least at the high end of the market. Even if the concern about climate change is growing, in the cases below, reducing the carbon footprint plays a secondary role with the entrepreneurs.

Restaurant Piloersemaborg, Den Ham, the Netherlands, sources most ingredients from very near, throughout the province of Groningen. It is the philosophy of chef Dick Soek that the guests should 'consume Groningen' – very much like the central philosophy of Hall et al. (2003). Freshness is very important; therefore, every day small quantities of ingredients are fetched or delivered in many different delivery van drives. This might result in a relatively high carbon footprint, in spite of the short distances covered.

In the Restaurants of Stenden University, Leeuwarden, the concept of these learning company restaurants is geared towards sustainability, including reduction of CO_2 emissions. Locavorism has a central position: using mainly seasonal and local products, mostly vegetables, combined with small quantities of animal products. The use of seasonal food requires less imported fresh products and greenhouse vegetables, thus reducing the carbon footprint of the restaurants. Additionally, the philosophy of Albert Kooy (2006), chef-professor, involves respecting the seasons and the Dutch culinary heritage for their own sake. The criterion for

local food is: grown in the Netherlands or nearby. Not everything is sourced as near to the restaurants as possible. Instead, one main supplier is used who sources practically all his products throughout the Netherlands: *national*, not *local* sourcing. Efficient logistics contributes to the reduction of emissions. Fish and shellfish come, by a local supplier, from small and ecologically responsible fishers. Wines are mainly from Germany and France, not from the 'new wine countries'.

Restaurant De Gulle Waard, Winterswijk, sources locally, from the Achterhoek region and adjacent parts of Germany for a couple of reasons. In the first place, the chef-owner Nel Schellekens wants to stimulate the regional economy. A considerable part of the wines served come from this region in which wine-growing has started only recently. In the second place, it is about doing justice to each individual animal that has been slaughtered for food. She works with animals that have lived for some other objective first (milk, eggs, grazing of nature reserves) and that may be useless in the context of industrial meat production (older male goats, young male kids, outsize chickens). Her style of meat production is what McGee (2004: 135) calls the 'rural style'. Another consequence of her respect for the killed animals is that all parts are used. Reduction of food miles is in her philosophy in the backseat, although it is an automatic consequence of her approach.

The Bäuerliche Erzeugergemeinschaft Schwäbisch Hall (BESH) started with saving a local breed of pig, the Schwäbisch Hällisches Landschwein or Mohrenköpfle. It was under threat of extinction in spite of its fantastic meat quality, because it was ill adapted to the industrial methods of pork production. The BESH is Rudolf Bühler's creation, who established it for the breeding, processing and marketing of this breed. Meanwhile, many other producers of regional products have joined (local breeds of beef, geese, sheep, goat and many fruit, dairy, vegetables, snails and cereal producers). In Wolpertshausen, the BESH exploits a 950m^2 supermarket, combined with a good and affordable restaurant, completely based on regional products. Again, the primary objective is not to reduce food miles (BESH, n.d.).

Marqt is a supermarket chain with eight branches in the west of the Netherlands. The supermarkets sell mainly fresh products produced by environmentally responsible suppliers from nearby (although wines can come from as far as Argentina). In other words: a locavore supermarket.

Can the Netherlands be fed from home production?

Partial locavorism at the high end of the market seems successful in the Netherlands. But does this mean that complete locavorism for everyone in the country is possible and desirable? In sparsely populated regions, the yield of the land nearby is sufficient to sustain the population. For big cities and agglomerations, food must be imported from far away.

We conduct a thought experiment: would it be possible to feed the Dutch population with nothing but locally produced cereals? The yield of cereals in the Netherlands is 9,300kg/ha (2009), the population 17 million and the energy requirement per person 2,500 kcal/day. Then, 5,610km^2 would be enough to supply everyone with enough calories. The total agricultural area in the Netherlands in 2010 was 19,000km^2. Superficially, therefore, the Netherlands would be able to feed itself, with more than 14,000km^2 remaining for dairy, meat, oil, wine, potato and vegetable production. However, the enormous agricultural yields are only possible by extensive use of chemical fertilizers, pesticides and fuels for heavy agricultural machines, much of these imported. In 1920, mainly horse-drawn tools and farm manure were used, and then the cereal yield was a scanty 2,000kg/ha. Under these conditions, for 17 million people to grow 2,500 kcal/day in cereals, 26,000km^2 of agricultural area would be needed. Actually,

during the German occupation (1940–1945), the Netherlands had to feed itself – compulsory locavorism! This was possible, but only under conditions of extreme austerity – for the then population of around 9 million!

Therefore, from a quantitative perspective, complete locavorism is impossible for a densely populated area like the Netherlands or for any metropolitan area in the world.

Certain imported food items will not grow in the country itself: spices, coffee, tea, cocoa, wine, olive oil, citrus fruits, etc. Nevertheless, these foods are part of the food culture of a country and therefore their absence would mean real austerity. Not importing them would only be acceptable under extreme emergency.

Therefore, also from a qualitative perspective, total locavorism is impossible and unacceptable.

Importing fresh fruits and vegetables: bad ecology, bad gastronomy

During the 1950s and 1960s in Western Europe, prosperity increased, and people used part of this income to go on holiday. They made their acquaintance first with the Mediterranean regions and subsequently with tropical destinations. Here, they acquired the taste of exotic foods and back home they wanted to continue the holiday feeling: eating the authentic food from their holiday destination. The proliferating supermarkets were eager to please and started selling broad assortments of imported wines, cheeses, olive oils and increasingly also fresh fruit and vegetables. The latter categories were meant to enable the customers to have all fruits and vegetables all the year round: the supermarkets abolished the seasons. Increase of conditioned transport by road, rail and air stimulated this development. Transport costs were high, but wages in exporting countries low. This is also why living animals for slaughtering are transported all over Europe: meat products are made at the lowest cost, without considering animal well-being.

All of this resulted in low consumer prices, at the same time putting many local producers in the importing countries out of business.

Abolishing the seasons: it sounds attractive but it is not. Asparagus from Chile and strawberries from Spain are available around Christmas, but they lack crispness and taste. Imported peaches from Southern Europe are picked very unripe. And ripe they never will be. The risk of throwing out fruits because they rot before they ripen is placed with the consumers. Exporters, wholesalers and supermarkets refuse to take the risk of throwing out fruits because they are over-ripe. Pears and apples can be imported during the months of scarcity in Europe and not of a very good quality. Thanks to sophisticated ripening techniques, the quality of these fruits is acceptable to most customers . . . until they are confronted with home-grown fruits, freshly picked at an optimal level of ripeness. Then, the consumers become aware of the full potential of these fruits.

Similar remarks can be made about vegetables. Green beans from Egypt, Ethiopia or Senegal generally lack crispness. All vegetables start to deteriorate soon after harvesting: peas and corn lose their sugar; leafy vegetables become limp, etc. Eating freshly picked vegetables is one of the main attractions of having a vegetable garden of one's own, and commercially grown vegetables from nearby are generally superior to what has travelled far.

Meat products: food miles and more

Increasingly, meat is traded all over the world. Excesses and scandals are by no means rare; see the most recent scandal of mixing horsemeat in products that allegedly contained 100 per cent

beef (Lawrence, 2013). Companies from France, the Netherlands, Romania and the UK were involved, illustrating the real Europe-wide character of meat commerce, and the concomitant lack of transparency. Considerable numbers of animals are involved: for 2010, the PVE (Dutch organization for meat and egg producers) registered an export of live animals: 12 million pigs, 60,000 head of cattle, 120,000 calves and 220,000 sheep and goats (PVE, n.d.). In spite of detailed European and national regulations concerning duration of transport, resting time, eating and drinking, many transgressions do occur (Regulation EU nr. 1 2005, 22 December 2004). Here, incurring food miles is combined with diminishing animal welfare.

Although the Netherlands produces great amounts of meat (total value of the export in 2011: €7.5 billion), imports are also quite considerable (2011: €4 billion). Again, the Netherlands incurs food miles in order to arrive at low prices.

Urban farming?

Politicians and idealists continuously plead for urban farming. Sometimes, the suggestion is made that cities might produce all of their own food (for one example, involving high-tech solutions, see www.innovatienetwerk.org).

Actually, it would be impossible to grow enough food in any big city or agglomeration. If, for example, each Amsterdam household had an allotment garden of 200m^2, enough for a competent gardener to cover 70 per cent of the need of vegetables and 20 per cent of fruits (author's own 31-year experience), it would take 72km^2 out of a total area of the municipality of 219km^2. That is not realistic. Apart from the need of area, an allotment garden makes many requirements upon the gardener: skills, available time and fitness. At present, Amsterdam has approximately 6,000 allotment gardens, occupying approximately 1.5–2km^2. The importance of urban farming is in the sphere of social and pedagogical issues: advancement of social cohesion, better understanding of food production, a better understanding of food quality and more appreciation and respect for professional agriculturalists. The yield in terms of food is thrown into the bargain (Schulp, 2012). Oil, dairy, meat, the bulk of the potatoes and the cereals must be produced outside the urban areas, although hopefully not too far away.

New high-tech concepts are around for efficient vegetable growing that might fit in an urban context. LED lighting is applied with only those wavelengths that are actually used by plants for photosynthesis. Even if an extra energy conversion, from electricity to light, is involved, the efficiency in using the photons for photosynthesis, the avoidance of waste heat thanks to LED light and the avoidance of diffused light makes up for this loss. Moreover, this technique can be applied in high-rise buildings. The beds can be piled up in a way that is only limited by the height of the plants, provided that occasionally they can be moved for operations on the plants (seeding, planting, harvesting). Even in this way, it will be impossible to grow enough calories for the whole population (cereals, potatoes, oil). It is a far cry from the more romantic idea of urban farming, but it does save food miles, and it is also sustainable.

Even farther removed from romanticism is the idea of transferring the meat production to the urban regions. Due to the vagaries of history, the production of pork, chicken and eggs is concentrated in the southern and eastern sand regions of the Netherlands. Originally, the animals were fed the potatoes and cereals from the farmers' own production. For today's immense numbers of animals, this is not possible any more. The animals are fed with imported feed that is put ashore in Rotterdam, transported to the industrial farms, from where the animals are transported to the slaughterhouses elsewhere in the Netherlands or far into

Europe. The idea is advanced to limit the food miles for the animal feed and at the same time reduce food miles plus stress for the animals, by locating the slaughterhouse next to the pig sheds by relocating the whole industry in urban areas, in the immediate proximity of the harbours, for example, on the Maasvlakte, municipality of Rotterdam. Rearing of the animals can be done in high-rise buildings; slaughtering and further processing can take place next-door; industrial processing of manure is economical due to economies of scale. The animal welfare in this situation can improve as compared to the existing situation. For this reason, even organizations campaigning for animal welfare are not opposed to this new approach (Varkensflats, n.d.).

Recommendations: what can be done instead of importing?

The recommendations apply both to private households, and therefore, to the food retailing business, and to the food service industry. Not all these recommendations are easy to realize, given the present-day context.

First, make fresh, local food attractive to the consumers. Take care of freshness, the right stage of ripeness, attractive presentation and realistic prices. In principle, this is possible: see the introductory cases. But realization at a larger scale might be problematic. Take the field of fresh fruit and vegetables. Here, the supermarkets are dominant; in 2012, their market share in the Netherlands was 86.6 per cent. Specialist shops had 4.2 per cent and the remaining 9.3 per cent is for street markets, farm door sales, etc. (Vers Awards, 2012). Working with fresh vegetables and fruits requires more expertise at the shop floor than the supermarkets are willing to pay for. Also, it might involve decentralized stocking of the supermarkets, thus upsetting the logistic system. Only if supermarkets of the Marqt type develop into a serious threat might the big chains be willing to partially reconsider their policy. Here might be a chance for the specialists indeed when they focus on fresh products from nearby at the right stage of ripeness.

Second, highlight and celebrate the seasonality of food, as is the custom already for new herring and asparagus: there's a whole culture of asparagus festivals, asparagus queens, asparagus dinners, asparagus peeling competitions and so on. Partly the supermarkets already participate in touting the arrival of these. However, why not extend this to the first green kale and sauerkraut, or the first really fresh strawberries? The big supermarket chains may have no problem with this kind of propaganda, but at the same time they will be eager to keep their green beans from Senegal in every season. Again, specialist shops may play a more important role here. Additionally, customer education is necessary, to make green beans in December accepted as not a very good idea, because of the poor taste and texture. Organizations such as Slow Food and Eurotoques might play a role in this, in connection with food events like the 'Week van de Smaak' (Week of Taste).

Third, make consumers aware that importing 'authentic' food from abroad is not always a good idea. Brie in its own region is infinitely superior to anything you find imported in the Netherlands. The Dutch cheese assortment has strongly increased in the past 20 years; new cheeses have been developed and old cheeses, like North Holland Meshanger, have been revived. Just one of the new cheeses, Petit Doruvael, resembles the French Port Salut, but has higher flavour intensity. In other words: better use is being made of the full potential of Dutch agriculture and traditional food trade. Why import Parma ham when Ganda ham from Ghent is available? The Netherlands has no great tradition in dried meats like the Italians have. But since the arrival of airing cupboards, good artisanal butchers produce dried items like coppa and pancetta that can stand the comparison with excellent Italian products. And

after all, one traditional Dutch dried meat product does exist: the Naegelholt, comparable to the best Bressaola. Again, the specialist shops and restaurants will have to do the work and from the big supermarket chains not much can be expected.

In the three above recommendations, specialist shops together with supermarkets based on organic agriculture or locavore concepts have to do the pioneering work. A lack of strategic orientation and general commercial expertise and skills makes it difficult for them to fulfil this task, but education and cooperation, for example using franchising formats, could enable them.

Urban agriculture also might be a good way to stimulate locavorism and therefore to reduce food miles. Not indeed, by directly providing much food for the stomach, but certainly by providing food for thought: when our super-fresh, home-grown vegetables are so very good, why shouldn't it be true for our other types of food as well: cheese, meat, eggs, oil? An educated taste and expertise in food with a broad group of consumers may ultimately lead to more local eating and fewer food miles.

Conclusion

A shift from indiscriminate food imports to locavorism means: *better ecology and better gastronomy*. It fosters food awareness, enjoyment of the true tastes and experiencing and enjoying the seasons. But do not impose, from mistaken locavore dogmatism, unnecessary austerity on the population. Don't rob them of tea, coffee and chocolate. This will turn out to be counter-productive. But certainly, there is a future in moderate locavorism.

References

BESH (n.d.) www.besh.de.

Cavagnaro, E. and Gehrels, S.A. (2009) 'Sweet and sour grapes: implementing sustainability in the hospitality industry – a case study', *Journal of Culinary Science & Technology*, 7(2–3): 181–195.

Hall, C.M., Sharples, L., Mitchell, R., Macionis, N. and Cambourne, B. (2003) *Food Tourism Around the World – Development, Management and Markets*, Oxford: Butterworth Heinemann.

Kooy, A. (2006) *De Nieuwe Nederlandse Keuken*, Zutphen: Kunstmag.

Lawrence, F. (2013) 'Horsemeat scandal: timeline – ten key moments of revelation in the investigation', *The Guardian*, 10 May.

Martinez, S., et al. (2010) *Local Food Systems: Concepts, Impacts, and Issues*, ERR 97, US Department of Agriculture, Economic Research Service.

McGee, H. (2004) *On Food and Cooking – The Science and Lore of the Kitchen*, New York: Scribner.

Pirog, R. and Benjamin, A. (2003) *Checking the Food Odometer: Comparing Food Miles for Local Versus Conventional Produce Sales to Iowa Institutions*, www.leopold.iastate.edu/pubs/staff/files/food_travel072103.pdf.

PVE (n.d.) www.pve.nl.

Rees, W.E. (1992) 'Ecological footprints and appropriated carrying capacity: what urban economics leaves out', *Environment and Urbanisation*, 4(2): 121–130.

Schulp, J. (2012) 'Eten van de stad?' *Slow Food Magazine*, 2012–2013: 26–28.

Varkensflats (n.d.) www.dierenwelzijn-nederland.nl/varkensflats.htm.

Vers Awards (2012) www.gfk//joop_holla_-_vers_awards_2012.pdf.