THE SCANDINAVIAN & NORDIC KITCHEN

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INTRODUCTION

The Scandinavian and Nordic kitchen is a rich and diverse one, as many traditional tantalizing recipes (sometimes with odd ingredients) have been part of this culture for hundreds of years. Spanning Norway, Sweden and Finland, the varied terrain and climates give way to an array of ingredients, enriching the diets of local populations. However, with growing global trade, many ingredients sourced locally, are now being imported into the region. When preparing these traditional recipes in the modern day, we rarely take into consideration the long journey each ingredient has made from its source to the plate. This cookbook will not only introduce three scrumptious meals, but also consider the environmental and social impacts the harvesting, sourcing and distribution of its ingredients has made. By better understanding these consequences, we can take measures to eat healthier, and contribute to sustainable and environmental justice.

LEGEND

A series of icons throughout the cookbook indicate certain background information about each ingedient, which will help determine the impact sourcing the ingredient has on the environment and on your health.

Where an ingredient is traditonally sourced from

Carbon footprint of transporting 60 kilos of this ingredient from its source

Health benefits and information on vitamins and nutrients in this ingredient

The ecological information and consequences of harvesting this ingredient

A meal's eco-score out of 5 points, determined by the following criteria:

PEOPLE — the social aspect of justice such as equity and inclusion of people involved in sourcing the product and those recieving it, including accessibility

HEALTH — the health consequences of consuming this meal, including the cholesterol content, possibility of contamination and nutrients/vitamins within

PLANET — the ecological consequences of sourcing, growing and transporting products, and its impact on the Earth's biodiversity and the strain it puts on resources

PROFIT — the economic dimension of food: how a group of people (such as a country) buy, regulate and sell products and what it means for the producer

LONGEVITY — perishability: the amount of time a meal lasts, both before it's prepared and before it's consumed

TOAST SKAGEN

Kcals	Fat	Carbs	Fibre	Salt
350	18g	25g	1.2g	1.2g

Created by Swedish restaurateur Tore Wretman during World War II, this starter is typically served at special Swedish events. It's an elegant combination of prawns, whitefish roe and fresh dill, served on sauteed bread with a slice of lemon. Add extra roe for the important events.

2/5

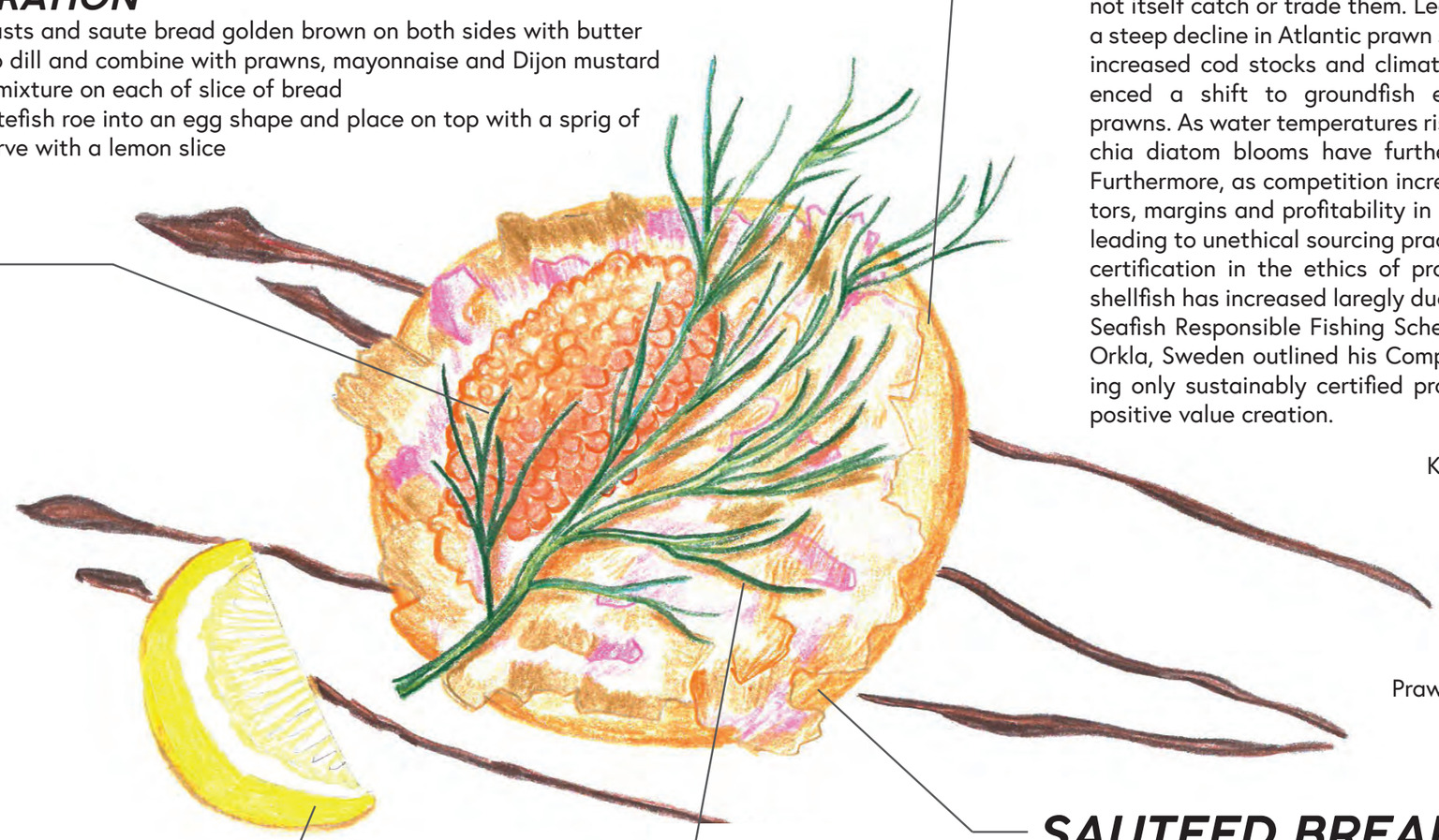
As many other seafood dishes, this meal presents an ecological challenge. Between the threat of overfishing, diminishing biodiversity and unethical fishing practices, sourcing the main ingredients is difficult to do sustainably. However, increased fish farming has allowed for better management of wild fish populations and a reduction in the carbon footprint of transportation. Additionally, this meal is high in nutrients and protein, and low in mercury, thus making it a healthier meal.

INGREDIENTS

- 4 slices of white bread
- 320 g of peeled prawns
- 4 tbsp mayonnaise
- 1 tbsp Dijon mustard
- 150 g whitefish roe
- 50 g fresh dill
- 1 lemon, 1 stick of butter

PREPARATION

- cut the crusts and saute bread golden brown on both sides with butter
- finely chop dill and combine with prawns, mayonnaise and Dijon mustard
- place the mixture on each of slice of bread
- shape whitefish roe into an egg shape and place on top with a sprig of dill and serve with a lemon slice



WHITEFISH ROE

Sourced from the Black and Caspian Seas

.21 metric tons of CO2e from source to Stockholm

Roe or "caviar" is a good source of protein and healthy omega-3 fatty acids, as well as iron and magnisium.

Whitefish roe typically comes from wild sturgeon, which are anadromous fish, meaning they are slow to reach reproductive maturity. In addition to habitat loss in rivers typically used for spawning and nursing, as well as disruptions in migration routes from dams, there are serious ecological concerns about the survival of wild sturgeon. Furthermore, water pollution and poaching for valuable caviar has led the fish to be listed as "threatened" under the Endangered Species Act since 2004. This fish, which has been around since the dinosaurs and once existed as hundred of species has been reduced to a mere 24 remaining species. In addition to the carbon footprint leftover from shipping roe from the Caspian and Black seas, this "edible gold" has become increasingly unsustainable to source. As an alternative, experts suggest farming white sturgeon using sustainable domestic aquaculture practices or using wild salmon roe instead.

COLDWATER PRAWN

Sourced from the North Atlantic and Arctic Ocean, from Canada to Norway

.05 metric tons of CO2e from source to Stockholm

Prawns are an excellent source of protein and low in calories. Although they are often high in cholesterol, these are made up of healthy omega-3 fatty acids

Coldwater prawns are the fourth largest fish export to the EU. Sweden is a major consumer of high quality prawns but does not itself catch or trade them. Leading experts have detected a steep decline in Atlantic prawn stock which they attribute to increased cod stocks and climate changes which have influenced a shift to groundfish ecosystem domination over prawns. As water temperatures rise 1-3 degrees, pseudo-nitzschia diatom blooms have further depressed prawn stocks. Furthermore, as competition increases from discount distributors, margins and profitability in the industry have decreased leading to unethical sourcing practices. As a result, the role of certification in the ethics of production and distribution of shellfish has increased laregly due to the establishment of the Seafish Responsible Fishing Scheme in 2016. Krishan Kent of Orkla, Sweden outlined his Company's commitment to sourcing only sustainably certified products which was delivering positive value creation.

Krishan Kent

Prawn farm

SAUTEED BREAD

LEMON

Dill essential oil

Wild sturgeon

DILL

Indigenous to the Mediterranean, southern Russia and Central Asia, but grown commercially in most of Europe

.29 metric tons of CO2e from source to Stockholm

High in nutirents and commonly used for medicine, especially for abdominal pain and for promoting digestion

Dill is used for a number of culinary purposes as a spice as well as a medicinal and fragrance supplement and there is evidence of its use by Egyptian doctors over 5000 years ago. However, due to the lack of proper cultivation practices, as well as the destruction of plant habitats, many medicinal plants have been threatened. The illegal collection and importation of plants have further complicated the growth and sourcing of this spice. However, due to its importance, there have been many efforts to increase the yield and durability of this crop through in-vitro technologies.

FÅRIKÅL

Kcals	Fat	Carbs	Fibre	Salt
656	42g	9.2g	9.7g	3.3g

This national dish of Norway is typically prepared in the Autumn for Sunday dinners. Typically, it's made with lamb or mutton, whole black pepper, cabbage, a little wheat flour to make the gravy thicker and potatoes on the side. Definitely a dish for that warm, full feeling.

4/5

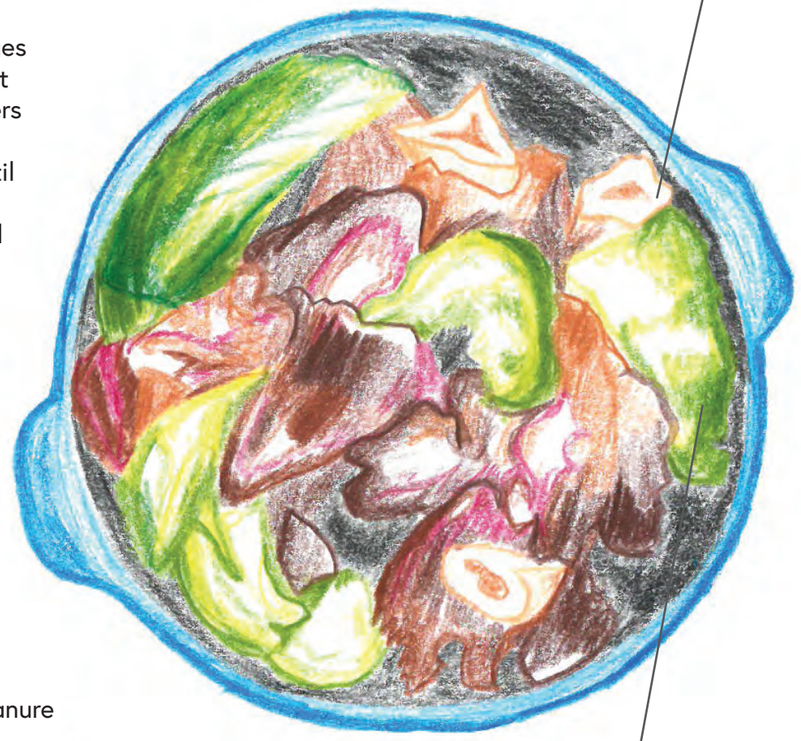
Although any dish with red meat in it will never achieve a perfect eco-score due to its harmful impact and strain on resources, this meal gets close due to the sustainable nature of most other ingredients involved. Both potatoes and cabbage are amoung the most affordable, widely avaliable and nutrient filled foods out there. Their worldwide cultivation means less carbon miles between source and consumer and less fertilizers and pesticides make them healtheir for the soil and consumers.

INGREDIENTS

- 3 kg sliced lamb
- 3 kg cabbage in wedges
- 1 tbsp black peppercorn
- 1 liter boiling water
- 1.5 dl flour
- 1.5 dl cold water

PREPARATION

- divide the head of cabbage into wedges
- lay meat and cabbage layered in a pot
- sprinkle salt and pepper between layers
- pour in water and boil
- let the cabbage pull over low heat until the meat is tender about 1-2 hrs
- serve piping hot, smooth the bowl and sprinkle some flour between layers
- serve with potatoes in their skins



POTATOES

Orginally from Latin America, but sourced locally since 1750

Almost 0 metric tons of CO2e becuase it's grown locally

An excellent source of vitamin C, potassium (more than a banana), vitamin B6 and fat. Sodium and cholesterol free

Potatoes are one of the most sustainable carbohydrate sources out there. They beat both rice and pasta in greenhouse gas emissions and water consumption, using only about a third of the water required for making pasta. Potato farmers use a series of strategies to further reduce the environmental impact of growing potatoes including adding compost, crop rotation and growing of cover crops. All of these reduce erosion and add nutrients to the soil naturally. Potatoes are rotated with crops that make poor hosts to pests and green manure is added to enrich the soil with nutrients and organic matter. This eliminates the need for any pesticides or chemical fertilizers, and with the reduced risk of disease and pests, farms are more biodiverse and can yield significantly more crops. Additionally, due to the relatively low input costs associated with this crop, farmers are less at risk of economic hardship due to a poor growing season.

Green manure

LAMB

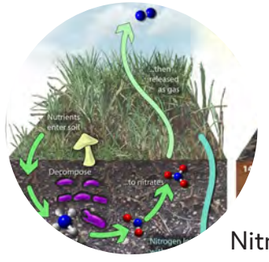
Typically sourced from New Zealand, but can also be sourced locally in Norway

2.04 metric tons of CO2e from source to Oslo

Lamb has similar calorie and fat intake as beef or pork but with less marbling so fat intake can be reduced. High-quality source of protein and iron

As with most red meat, the production of lamb for consumption comes with high land and water demand, as well as sizable methane emissions. Furthermore, grazing animals such as sheep constantly face welfare and production challenges including diseases, accidents and predators. Norway, for example, reported annual economic losses of NOK 100 million (£ 9 million) due to predator attacks and diseases. Due to these circumstances, one study found that local lamb sourcing is so inefficient, that lamb sourced from New Zealand resulted in a lower carbon footprint even with the immense distance it must travel. This is due to higher yields, low production costs and disease rates and optimal climate for year-round production in New Zealand. Recently, Norway has reduced its importation tariffs on lamb due to increased demand. Either way, lamb production remains one of the most negatively impactful on the planet regardless of where it's sourced.

New Zealand sheep



Nitrogen leaching

CABBAGE

Sourced worldwide, including within Norway

Almost 0 metric tons of CO2e becuase it's grown locally

Cabbage is high in antioxidants, helps prevent diabetes and reduces the risk of cardiovascular diseases

Cabbage is one of the most widely available and economical foods, making it a "nutritional bargain." Several studies have gained insights into its vast health benefits including cardiovascular and digestive support. However, as with most field vegetable production, there is a significant loss of nitrogen, which adversely affects the atmosphere, ground and surface waters through the process of nitrate leaching. Changing climate has also slightly reduced the growing period of cabbage, potentially threatening its availability as global temperatures climb.

TIIKERIKKAKKU

Kcals	Fat	Carbs	Fibre	Salt
170	7g	25g	1g	215mg

Tiikerikkakku, or "tiger cake" known for its marbled appearance of the crumb is a cake often enjoyed with coffee. Such cakes can appear anywhere from family gatherings, to formal affairs. This one is marbled with lucious chocolate and orange layers for that extra sweet touch.

3/5

Although tasty, many of the ingredients used to prepare this dessert are very difficult to source, and are therefore victim to unsustainable production and distribution practices. Vanilla and cocoa production is primarily limited to parts of Africa and distributors usually leave massive economic inequalities in their wakes. However, with most of these ingredients, there have been major efforts through establishing infrastructure to not only improve efficiency, but also to benefit its producers.

INGREDIENTS

- 1 cup butter
- 2 cups sugar
- 5 large eggs
- 2 cups all-purpose flour
- 2 tsp baking powder
- 2 tsp vanilla
- 1 orange
- 2 tbsp dark cocoa powder

PREPARATION

- grease and flour a bundt pan
- beat butter and sugar together until creamy
- sift together flour and baking powder, add eggs and stir in vanilla
- place 1/3 of cake batter into separate mixing bowl
- stir in cocoa powder and juice of half the orange
- stir in all of the orange zest into the main bowl and juice the rest of the orange
- spread 1/3 of orange batter into bundt pan, dribble chocolate batter on top
- repeat layers with orange batter on top, bake for 1 hour, cool, then invert

Pasture-raised hens

SUGAR

VANILLA

Almost all of the world's vanilla is sourced from Madagascar

1.07 metric tons of CO2e from source to Helsinki

Helps reduce cholesterol, rich in antioxidants, can reduce acne when applied topically and promotes healthy digestion

Vanilla production is an extremely complex and tedious process. Vanilla grows on a vine for about 4 months out of the year. One flower produces only one fruit and each requires a daily harvest in which each individual pod is picked by hand at its optimum ripeness and is then cured for three months. As such, pollination and harvesting is a very labor intensive process and requires great skill and expertise of its growers. A whopping 80% of the world's vanilla comes from Madagascar, and out of the 22 million people who live on the massive island, 90% live on less than two dollars a day. Additionally, due to the large number of intermediaries, exporters and distributors, as well as the complex stages of curing, vanilla farmers receive a very small portion of the price the vanilla is sold for on the global market. Due to these circumstances, vanilla is an expensive ingredient as the social consequences of its complex harvest and economic inequities make it difficult to source sustainably. Some major importers have made efforts however, to launch co-operatives in Madagascar in an attempt to raise farmer income and livelihood, empower vanilla collectors and help educate the public on the source of their vanilla-based products.

Vanilla pods

EGGS

Imported to Finland from Netherlands, Sweden and Denmark

0.11 metric tons of CO2e from source to Helsinki

Both the yolk and white of an egg are rich in nutrients, proteins, vitamins and minerals, and the yolk contains cholesterol and essential fatty acids

The egg production industry has reported a 71% reduction in greenhouse gasses emissions and 32% reduction of water to produce a dozen eggs since the 1960s. The main innovations behind this are effective manure management, improved feed efficiency and advancements in hen housing. From an economic perspective, the key leverage point for environmental performance is maximizing feed use efficiency as it is the largest expense for farmers. Caged systems have been the most efficient at harvesting eggs since manure can be managed very well and helps reduce salmonella spread among chicken populations. Such caged systems are practiced less at many organic farms due to their "unethical" approach. However, studies have shown that free-range systems pose greater risks to egg production workers and do not necessarily allow for more space for the chickens as they are packed in dens, often with artificial ventilation. Pasture-raised hens on the other hand, have been found to produce eggs with twice as much Vitamin E and brain-boosting long-chain omega 3 acids. Thus, although healthier and more ethical, this approach is ultimately more environmentally harmful as it is less efficient.

Cocoa beans

COCOA

Most comes from West Africa and other remote equatorial areas

0.78 metric tons of CO2e from soruce to Helsinki

Helps reduce high blood pressure, lowers risk of heart attack and stroke, may improve mood and symptoms of depression

As with vanilla, cocoa bean sourcing is highly challenging. The industry promotes extensive deforestation and often includes illegal child labor. Many distributors attribute "traceability" as the key to assessing and assuring the quality of yields and the production methods involved in sourcing cocoa. Barry Callebaut, among the world's largest cocoa producers is attempting to roll out a farm data management system across 65,000 farms in the Cote d'Ivoire for this reason and to increase transparency in cocoa bean sourcing. Furthermore, the producer has assembled demonstration plots and farmer field schools to educate and manage sustainable cocoa production.

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