

Ministry of Food

The mystery of our food landscape

DEALING WITH THE COMPLEXITIES
OF OUR FOOD SYSTEM
EXPERIENCING THE 'BLACK-BOX LANDSCAPE'
MEMORIES OF THE FUTURE
WILL YOU BECOME THE FIRST MINISTER OF FOOD?

Join us on a food
chain safari throu-
gh the landscape
of Barendrecht and
Veghel

LANDSCAPE//FOOD//GAME//STORYTELLING//TECHNOLOGY



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FOREWORD

GETTING TO GRIPS WITH THE COMPLEXITY OF OUR FOOD SYSTEM

Thijs van Spaandonk

We're proud of the result you have in front of you. It's an insight into research we've carried out into our food landscape over the past year. The research focuses on gaining an understanding of our role as consumer in relation to the complex food system and its future developments. This understanding leads to a trading perspective for a future full of uncertainties. To be able to learn what impact future actions will have on the system, and the physical implications of that (changing) system, we've developed a serious game: *Ministry of Food*.

We're confronted with discussions about our existing food system every day. This often raises the question of whether our current system is sustainable, if it's healthy for humans and animals, if it's

fair for the food products at the start of the chain, if it's sufficient for all the world's inhabitants, and if it's tenable in its current form.

All the while, technological developments and trends in the food sector are following on from each other at an increasingly fast tempo. Are we going to start printing food products at home? Will insects and algae become a standard part of our 'food pyramid'? Will we start breeding meat in laboratories?

Our food system is complex. It's built up from various chains which often cover large parts of the world. As consumers, we're the last link in these chains. The vast majority of consumers do all their shopping in supermarkets, where we make our

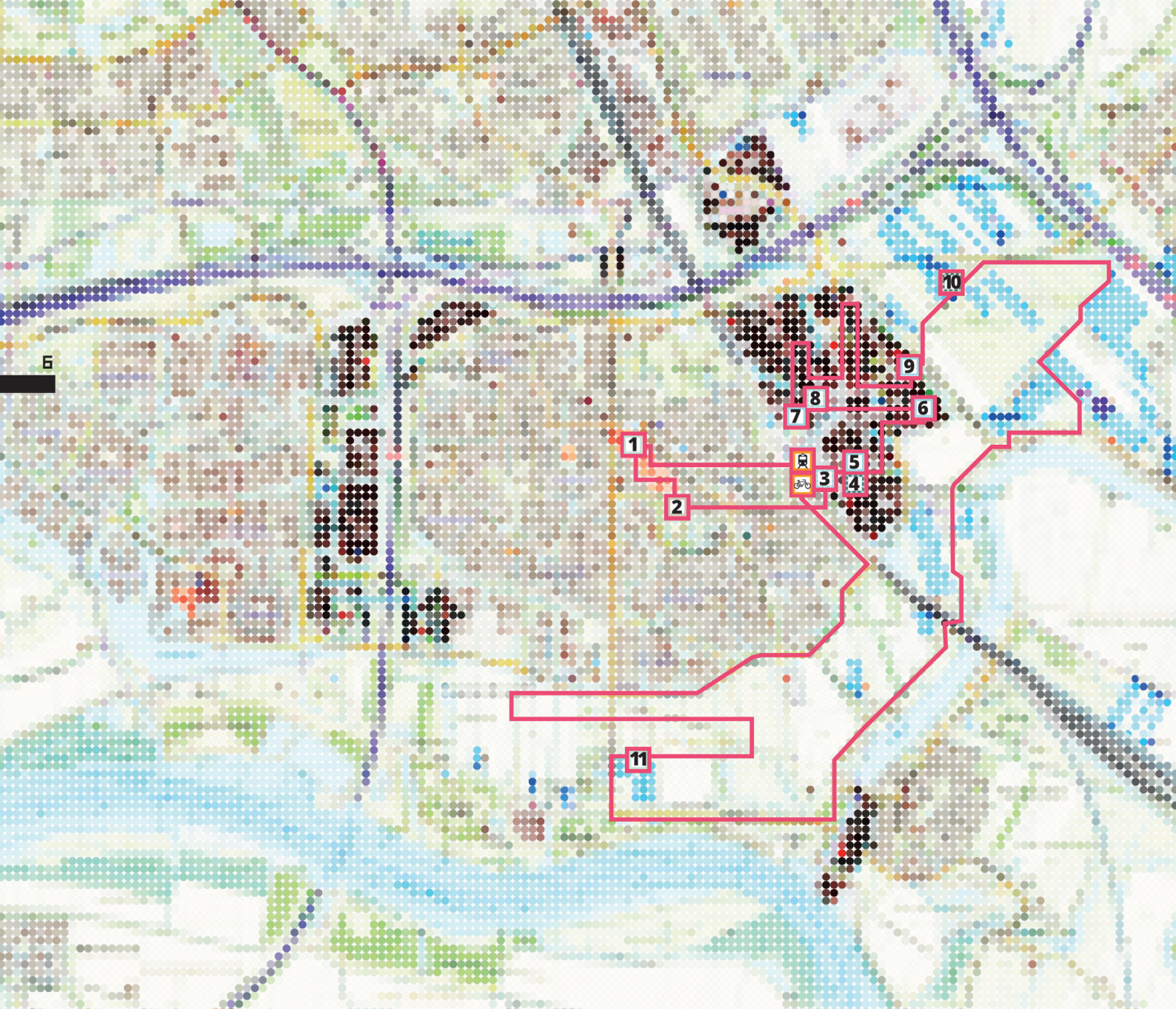
choices based on emotion, health, price or taste. And it's ultimately these choices that determine what's on offer in the supermarket landscape. So these decisions don't just have an impact on the supermarket, but on the entire system, all its chains, and so also on the food landscape. .

We hope this magazine will help you, the reader, gain an insight into our food system's complex future. The collection of articles, columns, images and stories show the scope of the topic, and the enthusiasm we have worked with.

We hope you enjoy reading!

BARENDRECHT

CITY OF FRUIT



Peter Hermens

Today, I'm taking a trip to Barendrecht to discover, as a recreational cyclist, if it's worth visiting our food logistics landscape.

Until late in the 20th century, Barendrecht wasn't much more than a small village at Voordijk in the polders on the island of IJsselmonde. It welcomed its 10,000th resident in 1964, and has grown rapidly since then. The whole area between the railway line and the A29 was developed with new homes until the change of the century. Barendrecht has now doubled in size since 2000, including expansion into Carnisselande to the west of the A29, and has almost 50,000 residents.

Early in the 20th century, 1915 to be precise, 'the Co-operative Fruit and Vegetable Auction for Barendrecht and Surrounding Areas' was established in a small wooden building near Barendrecht station. Many gardeners from Barendrecht and Ridderkerk brought their products here to be sold. Barendrecht is famous for its strawberries. A purpose-built auction house was opened in 1917, and in 1930 it was connected to the railway network. In the 1950s, the auction moved towards Gebroken Meeldijk, which signalled the start of decades of growth. This has ultimately resulted in the current fruit and vegetable giant, The Greenery, and a large Barendrecht trading centre, which has become a linchpin in the web of international fruit and vegetable trade.

So, there are two whole worlds of massive growth in a single polder, which actually makes my trip more a mission. I want to find out if large-scale food industriousness, in particular for fruit and vegetables, goes hand in hand with fast, urban development. Does this strong economic mainstay of the community contribute to an attractive living and working climate?

When I arrive at the station, I quickly notice there's

a distinction here between the living and working worlds. Passers-by don't see much of the homes bordering the west side of the station, nestled in a large embankment. This contrasts with the east side: you can look out over the Barendrecht-Oost industrial estate through a metre-high 'shop window', where you see the logistics centre for the national and international trade and distribution of potatoes, fruit and vegetables, as well as fresh produce. But this view of fences, wasteland and warehouse and distribution centres isn't exactly what you'd call beautiful.

After taking my rental bike from the self-service rack, I ride towards Middenbaan in the centre of Barendrecht. I start my day with a cup of *Sunset Dreams* tea at **Le Bonheur** Bistro. But despite the efforts that have clearly been made to make the most of this centre, it's not sunny dreams that enter my thoughts.

I cycle through the bike tunnel under the station and along Dorpsstraat-Oost, past the beautiful Buitenoord Park and lovely historical **Lijsterhof** Farm, to Gebroken Meeldijk. At the far end, I stumble across the **old auction building**.

This municipal monument is now home to **Jabaay**, a wholesale supplier of garden (building) materials with a retail shop, so I quickly take a look inside. The former auction clock still hangs in the building, a lovely piece of history. There is of course a direct link between the farm and the auction house, which I find on my route. Unfortunately, the auction site says little to the imagination; nestled between asphalt, fences and anonymous industrial buildings, the story behind this unique location is lost.

It's still fascinating, however, as **The Greenery's** head office appears less than 200 metres away, with the only tower daring to reach up towards the sky in the whole area. From here, I explore the industrial estate a bit, and it soon becomes apparent from its enormity that The Greenery has a big role to play here.

But I also find lots of logistics companies, such as the big **Bakker Barendrecht**, as well as importers and food-processing plants including **HillFresh**, **Fruity King** (of the fruit juices) and **HD** (of the fruit salads).

Legenda

- Centrum**
- Treinstation**
- OV-Fiets**
- Route**
- Punten op de route**
- Productie**
- Industrie**
- Tussenhandel**
- Verwerking**
- Logistiek**
- Consumptie**
- Zichtbaarheid**
- Beleven**
- Zwartedozenlandschap**
- Kassencomplexen**



Thuisbezorgd wanneer jij wil.



The fact that I'm at the heart of the Dutch fruit and vegetable logistics centre is emphasised further by all the signs and many flags around me. All these companies have one thing in common in terms of image: it's mainly a collection of asphalt, concrete, low-maintenance gardens, warehouses, loading docks and sheet metal that dominates the scene.

I eventually find a cycle path by **Cool Fresh** on Handelsweg that takes me towards Rijksstraatweg in the municipality of Ridderkerk. The greenhouses soon come into sight here, where crops are grown before being processed, packaged and traded just a couple of hundred metres away. I stop and have a quick look at **Boer Den Hoedt** on Voorweg.

Boer Den Hoedt grows a variety of different lettuces. Even though the greenhouses appear anonymously to passers-by, what happens inside them is fascinating. The lettuces are grown on water, with local rainwater a major source. Everything is lit with LED luminaries, using exactly the right brightness at just the right time. And all the heavy work is done by robots.

The greenhouses represent the direct link between production and logistics. Goods come to Barendrecht from all over the world these days, but it's great to see that these direct links still exist. Unfortunately, not much thought seems to have

gone into spatial planning and development here, and the best thing I can say about my cycle back to Barendrecht via Hoogzandweg is that it isn't too taxing.

I keep cycling past Noldijk, a lovely old dike with a few greenhouse complexes scattered here and there in the polders. I finally arrive at Zuidpolder, where I can enjoy relaxing in the fresh air for a while after my eventful tour. In this area between the city and Oude Maas, 172 hectares of farmland has been transformed into an extensive nature reserve and recreational area. I eat a delicious slice of rustic apple pudding at **Theehuys Polderzicht** to round the day off, before returning homewards again, somewhat disillusioned with the whole landscape.

Barendrecht demonstrates that large-scale significance in the food sector doesn't necessarily mean you'll see much if you visit, let alone find it particularly uplifting for the spirits, even with so many fascinating stories associated with it. Wouldn't it be nice if we developed some sort of viewpoint in places like this? Find a way of being well-informed and seeing things from a different perspective? Give broader significance to the landscape that our food has such a big impact on?

Bij Aldrone Heijn doen we niet moeilijk. We komen gewoon langs wanneer je iets nodig hebt, als het jou uitkomt. Koekjes aan het bakken en geen melk in huis? We zijn er zo!





BLACK BOXES IN THE LANDSCAPE



98%
of our
food is
processed

Gerjan Streng

O buy our food in restaurants and at farmers' markets – lovely during the weekends. On weekdays we simply get it from the supermarket or have it delivered. Usually we know where our produce comes from: wheat grows in fields, fruit comes from the Betuwe region, cows produce milk – from which we produce yoghurt and cheese. And thanks to the greenhouses in the Westland region we have tomatoes and cucumbers available year-round. Annually 160,000 workers in the Netherlands produce a whopping €10 billion worth of foodstuff.¹

Still, this is only a fraction of the food system in the Netherlands. Between production and consumption lies a vast industrial system of manufacturing, processing, distribution, marketing and other services. We know very little about this system, and rarely encounter it. Large parts of what happens with our food is hidden from view, taking place in a 'black-box landscape': logistics warehouses, aluminium-clad production sites, and anonymous office premises surrounded by fences. Most of the economic value added in the food chain is created at these locations. Innovation and labor takes place here. The discrete nature of this part of the food system does raise questions. In fact, it only ever appears in the news if things go wrong. The romantic marketing of grazing cows on milk cartons, or the friendly farmer on packs of vine tomatoes, is hard to recognise. This is a place where the cold logic of logistics and economics reigns. Or so it seems.

This research delve deeper into the black-box landscape. No less than 98% of all our food is processed in some way before it enters our kitchen.² Products are cleaned, sorted and packaged. New products are created: milk is transformed into cheese, grain into bread, and fruit into jam, juice, soft drinks, etc. Tomatoes and

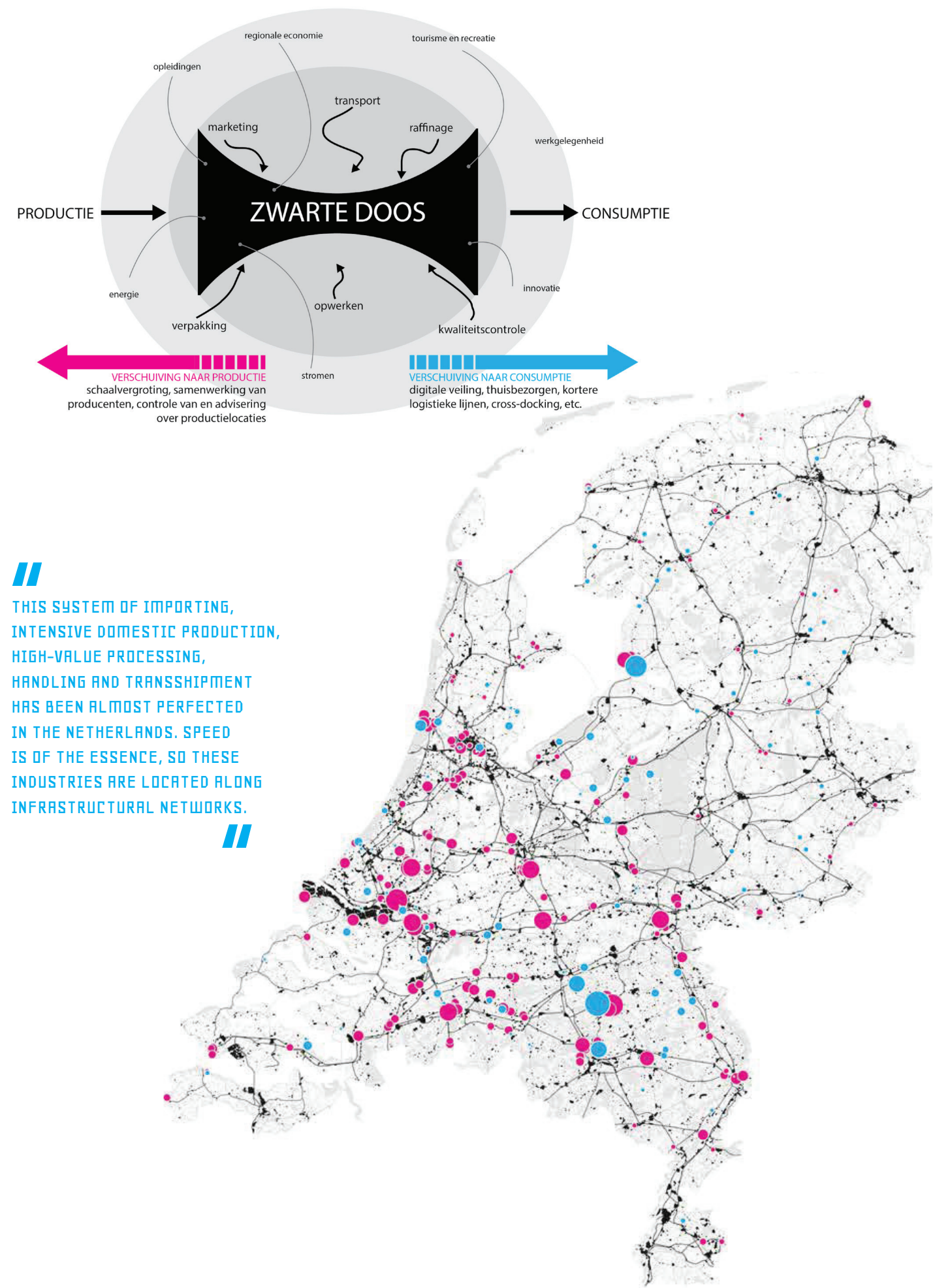
cucumbers are mixed with other ingredients and turned into convenient, ready-made salads. Our food meets all food and safety standards, and all the requirements imposed by retailers and consumers. This processing industry earns much more money than the primary production – some €20 billion – twice as much as cattle breeders, farmers, gardeners and fishermen combined.

Food produced in the Netherlands is by no means exclusively destined for the Dutch market. Industrial food chain often includes multiple continents. The figures show this too: 80 percent of revenues and 75 percent of employment in the processing industry can be attributed to imported products.³ Large proportion of the global flow of soy, cocoa and coffee passes through our country. Out of 949 million kg of cacao imported a merer 3 million kg is consumed here.⁴ A large proportion of imported goods is simply checked for quality and transloaded or cross docked into different packaging and transport mode. A cynic might say that it's just about shifting boxes, but this distribution represents a worth of €4 billion and 50,000 jobs.

This system of importing, intensive domestic production, high-value processing, handling and transshipment has been almost perfected in the Netherlands. Our position as a gateway to Europe makes our country pivotal in the global food system, meaning safe food is abundantly available here in all seasons. Transit makes us a large exporter of food, second only after the United States. Unilever, Heineken and FrieslandCampina, the three largest food companies in the Netherlands, serve the entire world from our domestic market. They rely on rail, road and water transport for supply and delivery. Speed is of the essence, so these industries are located along infrastructural networks.

In ancient times the countryside used to be right behind the city wall. Townspeople encountered producers at the market. This connection has since been obfuscated. Thomas Sieverts writes about the '*Zwischenstadt*'⁵, a landscape that's neither city nor rural area. This 'in-between city' accomodates mass recreation, big-box stores for furniture and DIY, sports clubs and gyms. It's also an occupational landscape of offices and businesses. Cheap land allows for lots of square metres. Spatial development is no longer determined by environmental factors. Instead, size and speed of a fully loaded truck determine road width and

¹ Verhoog, David, 2016. *Het Nederlandse agrocomplex 2015*. Wageningen, LEI Wageningen UR (University & Research centre)
² FOA, 2012. *Coping with water scarcity*. Via: METABOLIC, 2016. *The Global Food System: an analysis*
³ Verhoog, David, 2016. *Het Nederlandse agrocomplex 2015*. Wageningen, LEI Wageningen UR (University & Research centre)
⁴ Noordhoff Uitgevers bv, 2014. *De bosatlas van het voedsel*
⁵ Sieverts, Thomas, 2000. *Cities without Cities: An interpretation of the Zwischenstadt*. Taylor & Francis Ltd.



// THIS SYSTEM OF IMPORTING, INTENSIVE DOMESTIC PRODUCTION, HIGH-VALUE PROCESSING, HANDLING AND TRANSSHIPMENT HAS BEEN ALMOST PERFECTED IN THE NETHERLANDS. SPEED IS OF THE ESSENCE, SO THESE INDUSTRIES ARE LOCATED ALONG INFRASTRUCTURAL NETWORKS. //

radius. Logistics determine the internal dimensions of buildings: a corridor wide enough for a forklift truck, with stacks on both sides, is ideal. And the more loading docks on one side of a building the better. A box is easy to build, and results in an optimized ratio of volume per area outer surface, which saves costs and improves energy efficiency.

Many companies try to reduce the amount of tangible assets on their balance sheet. Especially real estate is seen as 'dead capital', which should be activated and used for direct operations. The past few years many companies have sold their premises to investors using sale-and-lease-back contracts. New buildings will be erected, at risk, by developers without knowing an end user. Any deviations from the norm make it harder to find a tenant and second user, which means all new buildings are becoming increasingly similar. The logic of logistics and finance results in far-reaching uniformity in this black-box landscape; the fruit world of Barendrecht looks exactly like the fish world in Urk.

The granary used to be the most important building in the city. Whoever owned it held sway over the population. Nowadays, large stocks no longer seem to exist. Like the car industry, food logistic is managed 'just-in-time': a product will be ready for us exactly when we want it. Food

is always on the way, made possible by cheap mobility. An apple harvested in New Zealand and shipped to Europe has a smaller energy footprint than a Dutch Elstar apple that's been sitting in a refrigerated warehouse for ten months. We barely know food shortage. Exceptionally, things go wrong, for example when snow in Southern Europe causes a spinach harvest to fail. But luckily there's always frozen vegetables to fall back on, because warehouses do exist. They tower high above the ports of Rotterdam, Vlissingen and IJmuiden.

Motorways offer a good view of the full scope of our food landscape: the fields and meadows, and the colossal buildings in the black-box landscape on the outskirts of our cities and at large traffic junctions. A truck driver next to you could be carrying a full load of strawberries. The image on the truck's side has been created by a graphic designer. They too are part of the Dutch agrifood complex. Just like all the suppliers of machines and packaging, and advisers, banks and insurers. Altogether, this amounts to around 600,000 jobs and a combined turnover of €48 billion, some 8% of the total economy.

We all know the familiar Laughing Cow on the packaging. We buy our tomatoes from the friendly local grower at the farmers' market. In supermarkets these days, meat is no longer on





PRODUCTION AND CONSUMPTION OF OUR FOOD SEEM TO BE MILES APART. LITTLE ATTENTION IS GIVEN TO THE PROCES IN THE BLACK BOX, DESPITE IT'S SUBSTANTIAL CONTRIBUTION TO OUR FOOD SYSTEM.



refrigerated shelves but rather at the artisan butcher's stall. Conscious consumers are looking for products with sentiment and authenticity, a good story about its origin.

But on the news we see different stories. Food scandals follow each other in quick succession. Farmers have supersized, with even more cows since the milk quotas have been repealed. Ingredients are dragged from across the world. Production and consumption of our foods seem to be miles and miles apart. When we bike through rural areas, all we see is well-grazed pastures. Production seems to be large-scale, cheap and emotionless. Smart marketers try to reduce this emotional distance, which is why we see farmer, brewer, fisherman and other age-old professions in advertising. The idea that we are personally getting to know the makers of our food increases the trust we have in food safety.

The processing in black boxes, however, receives hardly any attention at all, despite its immense contribution to the food system. The associated

black-box landscape remains virtually unknown and anonymous to most since these aren't inviting places to visit. But many hundreds of thousands of people do spend their working lives here. They take great care in the work and speak proudly about it. Their stories can provide answers to some very relevant questions we have about our food*.

What happens if we make these areas a perceptible part of our food landscape? This would tell a story that's very different to the artisan romance that currently prevails. An acquired taste, perhaps? But it will be an honest story that makes us understand how the environment influences our food, and how our relationship with food affects the environment we live in.

* Did you know that wrapping a cucumber in (recyclable) plastic extends its shelf life with three days? Without wrapping to protect them against our dirty fingers they spoil much faster. A bit of packaging gives a substantial reduction of the amount of wasted food.

TRENDS IN FOOD WORLD

traceability more and more important



climate change impacts sourcing of food



hang naar authenticiteit en versbeleving



increase in hightech and large scale organic production



pharmaceuticalisation of food

linear chains turning circular



decreased importance for the Netherlands as food-hub



increasing demand in guaranteed supply



furhter industrialisation



alternative protein sources and novelty foods



less nodes in food chains, minimalsing transport



developments towards a sellers market





▲ Pam van der Veen bij landwinkel De Hooierij in De Bilt op zoek naar ingrediënten voor haar lokale spaghetti bolognese © Shody Careman

Zoektocht naar lokale pot

LOCAVOOR | Weleens gehoord van de locavor? Zo iemand haalt zijn of haar voedsel in een zo klein mogelijke straal rond huis. Zo'n leefstijl blijkt niet mee te vallen, merkt journalist en blogger Pam van der Veen. Maar verrassend is het wel.

Pam van der Veen 21-01-17, 21:24 Laatste update: 21:25

6 0 0 0 reacties



▲ 'Broer' Toon en 'Zus' Janna de Geus in hun quinoa-schuur in Mookhoek. 'Quinoa vonden wij een leuk gewas om mee aan de slag te gaan.' © Qphoto

Superfood groeit gewoon om de hoek

PIONIEREN | Importeren? Dacht het niet! Boeren in de Hoeksche Waard zetten hun hectaren steeds vaker vol met 'supergewassen' als quinoa, boekweit, sorghum of kikkererwten. Zij zoeken nu alleen nog een manier om hun superfood bij de mensen op het bord te krijgen. „Men wil liever een eerlijk product uit gezonde grond dan een anoniem zakje uit Peru.“

Bas Boerma 15-01-17, 13:00 Laatste update: 13:01

"MORE AND MORE CONSUMERS AND SOCIAL ORGANISATIONS ARE BECOMING ACTIVELY INVOLVED WITH FOOD. THIS WILL REQUIRE A VISIBLE PRESENCE IN THE LOCAL AREA." *



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Afschaffen melkquota was misschien toch niet zo'n goed idee

Inzet Middel - 30/08/16 - 16:40

'Bevrijdingsdag' noemden de Nederlandse boeren 1 april van dit jaar, toen er een einde kwam aan de Europese melkquota. Maar nu zijn de melkprizen gekelderde. Was afschaffing van het quotum wel een goed idee?

De mondiale zuivelmarkt is nog minstens zes tot twaalf maanden sterk in mineur, zo sprak Theo Spierings van het Nieuw-Zeelandse zuivelconcern Fonterra vorige week onthutsend. De Nederlandse topman van de grootste melkverwerker ter wereld denkt dat de factoren die nu voor de laagste melkprijs sinds 2009 zorgen, de komende tijd nog niet uit beeld zijn. En dat net op het moment dat Europese boeren weer meer konden gaan produceren.

Nederlandse melkveehouders keken jaren uit naar de dag dat het melkquotum definitief tot het verleden zou behoren. Gekscherend noemden ze 1 april 2015 'Bevrijdingsdag' en ze investeerden honderden miljoenen om aan de groeiende wereldvraag te voldoen. Maar nu hun product nauwelijks nog wat waard is, melden ze enorme problemen met het betalen van de bank, de mengvoederleverancier, de diesel voor de tractor en de loonwerker die het gras komt maaien. Hier en der in Europa doet de vraag op of er niet te snel afstand is gedaan van het systeem dat meer dan dertig jaar de melkproductie beheerste.

Einde strakke systeem

Om te doorgronden waarom het melkquotum ooit is ingevoerd, moeten we kijken naar de ontwikkeling van de melkveehouderij na de Tweede Wereldoorlog. De basis van het naoorlogse landbouwbeleid werd gelegd door de socialistische

Meer over

Economie

Chinese sluiten na wisselvallige da met verlies, ook AEX in de min

Solidariteit als pijler van pensioenstelsel op retour

Europese beurzen bekomen van de Chinese schrik

Beurzen herstellen na 'Zwarte Maandag'



Bevrijdingsdag De export van agrarische technologie naar Nederland - 30/08/16 - 16:40

Kennis, melkpoeder en appels topexportproducten Nederland

De Nederlandse export van landbouwproducten is vorig jaar verrassend hard gegroeid. Voor een recordbedrag van 85 miljard euro werden onder meer fruit, vlees en melkpoeder uitgevoerd. Alleen de VS deden het nog beter.

Door: Peter van Ammelrooy 21 januari 2017, 02:00

Nederland heeft in 2016 voor een recordbedrag aan agrarische producten geëxporteerd. De uitvoer van kaas, appels, varkens, bloemen en tomaten leverde 85 miljard euro op. Daarmee is Nederland 's werelds grootste landbouwexporteur na de VS, die circa 122 miljard dollar (114 miljard euro) aan landbouwgoederen in het buitenland afzetten. Duitsland komt op een derde plaats.



© THINKSTOCK

Katwijkse visser koopt Bretonse tonijnvloot

Nederlands grootste visserijbedrijf, Parlevliet & Van der Plas, vangt en verkoopt haring, witvis, makreel en garnalen. Met de aankoop van het Bretonse CFTO kan het daaraan tonijn toevoegen.

Door: Gidi Pols 23 mei 2016, 22:19

Parlevliet & Van der Plas, het grootste visserijbedrijf van Nederland, koopt de Franse tonijnvisser CFTO. Daarmee groeit de vloot van het familiebedrijf uit Katwijk van 25 naar 39

"GROWERS AND GARDENERS ARE BECOMING BIGGER AND BIGGER. LOGISTICS LINES ARE GETTING SHORTER AND SHORTER. THESE TRENDS BRING A NEW DYNAMIC AND CHANGE WITH THEM." *



Hoe duurzaamheid voor een bewogen retail-landschap zorgt

Door: Katja Logatcheva · 7 oktober 2016

Categorie: Voedselbeleid

Twee decennia geleden was de supermarkt een plek waar men eten kon kopen. De keuze bestond meestal uit een discounter of een 'gewone' supermarkt in een wat grotere stad. Bij de discounter kon men goedkoop halen wat er nodig was. Bij de supermarkt kon dat ook, maar wel iets prijziger, en in twee, drie of vier verschillende varianten, afhankelijk van de formule.

Duurzame voeding als niche markt

Duurzame voeding als marktsegment stelde twee decennia geleden niet veel voor. Voor producten die Fair Trade of biologisch waren moest de consument naar een Wereldwinkel of een reformwinkel. Het aantal mensen die daar hun dagelijkse boodschappen haalde was op één hand te tellen. De prijs van duurzame producten was heel hoog en het assortiment beperkt; men moest wel heel graag de wereld willen verbeteren om al de boodschappen bij de duurzame winkel te doen. Inmiddels is er veel veranderd.

Gevolgen voor het retail-landschap

Het grote gevolg voor het retail-landschap is dat het kleine biologische winkeltje en de grote supermarkt naar elkaar toe zijn gegroeid. Er is een hybride vorm ontstaan: een supermarktketen voor duurzaam die inspeelt op de groei van het consumentensegment dat op duurzaam aanslaat. Het aantal filialen van biologische supermarkten nam toe van 20 in 2013 naar 50 in 2015 (zie ook [Detailinfo.nl](#)). Terwijl duurzame ketens als Ekoplaza, Marqt en Van Gimsel zich meer op de massa zijn gaan richten, gingen de reguliere supermarkten als Albert Heijn, Jumbo en Plus die al langer de massa aantrokken zich ook meer richten op duurzaamheid, en in het bijzonder biologisch. Maar waar een volwassen marktsegment ontstaat, gelden regels van keiharde concurrentie.

Groeïende concurrentie op prijs

Bij een vergelijkbaar assortiment is concurreren op prijs één van de weinige mogelijkheden. En daarbij staan de supermarkten zeker met 1-0 vóór. Een reguliere high-end full-service supermarkt beschikt over een assortiment van meer dan 30.000 producten en heeft een enorm distributienetwerk achter zich. Nieuwe productlijnen inpluggen in de bestaande efficiënte logistieke processen is voor hen relatief gemakkelijk. Productie- en distributiekosten zijn lager geworden en consumentenprijzen kunnen naar beneden. Duurzame supermarkten en zeker kleinere winkels hebben dat volume en het distributievoordeel niet. Daarnaast zijn reguliere supermarkten tegenwoordig een belevenisplek, met geoutilleerde sushi-, grill- en koffiebars. Duurzame winkelketens zullen ook allerlei zaken uit de kast moeten halen om klanten aan zich te binden. Ondertussen zijn zij wel hun prijzen gaan verlagen.

De verliezers in deze strijd zijn reeds zichtbaar. De overgebleven kleine biologische winkels hebben moeite om hun omzet te behouden. De gemiddelde omzetten in deze categorie zijn dalende en een aantal winkels heeft ook in het afgelopen jaar de deuren moeten sluiten, volgens de gegevens van [Bionext](#), de brancheorganisatie voor biologisch. Ook het aantal van niet-samenwerkende biologische winkels daalde tussen 2013 en 2015 van 295 naar 277 ([Detailinfo.nl](#)). De verwachting is dat deze trend zich de komende jaren doorzet.

"GLOBAL DEMAND FOR DAIRY IS INCREASING, ALTHOUGH IT'S FALLING IN THE NETHERLANDS. PENSIONERS AND THE ELDERLY ARE AN IMPORTANT MARKET, WHICH CAN LEAD TO PHARMACEUTICALIZATION IN FOOD PRODUCTION." *



Novel and traditional food: guidance finalised



EFSA has published two guidance documents on **novel food** and **traditional food** from third countries to help ensure that these foods are safe before risk managers decide whether they can be marketed in Europe.

EFSA developed the guidance following the adoption of the **new European regulation** on novel food in November 2015. The regulation, which replaces the previous one from 1997 and comes into effect in January 2018, introduces a centralised assessment and authorisation procedure. EU risk managers will decide on the market authorization of novel foods and may ask EFSA to conduct a scientific **risk assessment** to confirm their safety.

What are novel and traditional foods?

Novel food refers to food that European citizens have not consumed to a significant degree prior to May 1997. It includes food from new sources (e.g. oil rich in omega-3 fatty acids from krill), food obtained through the application of new technologies (e.g. nanotechnology) or by using new substances (e.g. phytosterols or plant sterols).

Traditional food is a subset of novel food. The term relates to food traditionally consumed in countries outside the EU. It includes foods made from plants, microorganisms, fungi, algae and animals (e.g. chia seeds, baobab fruit, insects, water chestnuts).

Inside the meat lab: the future of food

With billions of mouths to feed, we can't go on producing food in the traditional way. Scientists are coming up with novel ways to cater for future generations. In-vitro burger, anyone?



The future feast is laid out around a cool white room at Eindhoven's University of Technology. There is a steak tartare of in-vitro beef fibre, wittily knitted into the word "meat". There are "fruit-meat" amuse-gueules. The green- and pink-striped sushi comes from a genetically modified vegetarian fish called the biccio that, usefully, has green- and pink-striped flesh. To wash this down, there's a programmable red wine: with a microwave pulse you can turn it into anything from Montepulciano to a Syrah. For the kids, there are sweet fried crickets, programmable colas and "magic meatballs". These are made from animal-friendly artificial meat grown from stem cells: packed with Omega 3 and vitamins, they "crackle in your mouth". Yum.

Why indoor farms are the future of food production



Food shortage is a bigger problem than a lot of people realize. At the current growth rate of 1.1% a year, the population will see a 30 per cent increase by 2050. That means there has to be a whopping 70 per cent increase in food to meet demand, which, based on the current growth of the agricultural industry, simply isn't going to happen. Considering that an estimated one-in-eight people worldwide are already suffering from chronic malnourishment, you can see how the problem will get worse over time.

A new indoor farm in Miyagi Prefecture, Japan, created as a joint venture by GE Japan and Mirai Inc. might just be the solution to our grim future. Born out of the 2011 earthquake and tsunami that caused heavy food shortages, the farm is converted from a Sony Corporation semiconductor factory and is half the size of a football field. The indoor farm is illuminated entirely by LEDs and the lights are tailored to the specific frequency of light that plants need, thereby helping the crops grow 2.5 times faster.

"A NEW "AGRICULTURE SECTOR" IS BEING ADDED. WITHIN A FEW YEARS, I EXPECT THERE TO BE SEVERAL NURSERIES FOR BREEDING TONNES OF INSECTS IN THE NETHERLANDS EVERY DAY, IN DIFFERENT PARTS OF THE COUNTRY, AND FOR DIFFERENT MARKET SECTORS." *



HelloFresh trekt \$50 mln aan nieuw kapitaal aan

HelloFresh, bezorger van maaltijdboxen aan huis, krijgt een kapitaalsinjectie van \$50 mln.

Dat heeft het internationaal werkzame bedrijf, dat sinds 2012 ook in Nederland actief is, vanavond bekendgemaakt. Het grootste deel van de investering komt van het Amerikaanse private-equityhuis Insight Venture Partners. Ook Phenomen Ventures investeert weer, net als tien maanden geleden.

Winstgevend

De inbreng van nieuw vermogen houdt verband met de sterke groei die HelloFresh doormaakt. Sinds kort is de start-up, opgericht in november 2011, winstgevend op de Europese markt.

HelloFresh biedt klanten wekelijks een box met recepten voor maaltijden en alle bijbehorende boodschappen en verse ingrediënten. 'Wij zorgen ervoor dat mensen thuis gezonde maaltijden koken', zegt Jeff Lieberman, managing

"CONVERSION OF SUGAR INTO ALGAE IS MUCH MORE EFFICIENT THAN THE CONVERSION OF CO2 AND SUNSHINE. AND THE DISAPPEARANCE OF SUGAR BEET QUOTAS MEANS SUGAR PRODUCTION IS ON THE RISE TOO. THIS CAN BECOME A REAL DRIVER FOR ALGAE PRODUCTION TO GRADUALLY SCALE UP FROM THE NICHE THAT IT IS NOW TO HIGH-VALUE FOOD AND EVEN BULK." *



Theodore Rousseau (1812 - 1867) *Vue de la plaine Montmartre, effet d'orage*, Musée du Louvre, Paris

> nieuws

10/02/2017



Kleine foodbedrijven zijn grootste groeiers

In de laatste vijf jaar groeide het aantal producenten van voedsel en dranken met minder dan 5 medewerkers met 45% tot 3.660. Hiermee groeide dit marktsegment veel harder dan het aantal producenten in de totale foodsector (+21%). Dat blijkt uit een analyse van ABN AMRO. De bank verwacht dat deze groep ondernemers in de komende twee jaar met 7% per jaar zal groeien tot boven de 4.100 bedrijven eind 2018. Hiermee zet de 'start-up cultuur' binnen de foodsector stevig door.

Tussen 2011 en 2016 groeide vooral het aantal kleine bierbrouwerijen explosief: met maar liefst 430%. Ook het aantal producenten van bakkerijproducten, zoals cakes en taarten, nam fors toe (+46%). De grote populariteit van 'thuisbakken' en stijgende vraag naar speciaalbieren zijn de aanjagers van deze groei.

Onderscheidend zijn met menukaart of supermarktschap

Kleine ondernemers leveren hun producten vaak via de specialzaak, horeca/foodservice of rechtstreeks via een eigen (online) winkel. Zij maken het verschil door snel in te spelen op foodtrends, op het gebied van gezondheid of de behoefte aan kleinschaligheid en ambachtelijke en duurzame producten. Ook supermarkten benutten steeds vaker de kracht van de sterkste groeiers om hun formule te versterken en zich te onderscheiden van concurrenten met een uniek assortiment. Nu buitenhuiscasualties steeds meer terrein wint, zullen ook hotels, restaurants en cafés nog meer behoefte krijgen aan onderscheidende producten op de menukaart.

Ontwikkeling nieuwe concepten nodig om consumenten te blijven binden

De consumentenbestedingen aan voeding en dranken nemen toe. Consumenten zoeken steeds meer variatie in eten en drinken, waardoor hun loyaliteit onder druk staat. Ook kleine producenten staan voor de uitdaging te blijven innoveren en nieuwe concepten te ontwikkelen, als zij consumenten aan zich willen blijven binden. Een duidelijke en onderscheidende positionering ten opzichte van bestaande producten, je markt goed kennen, en professionalisering zijn belangrijk. Een efficiënte productie en logistiek zijn basisvoorwaarden. Het is aan de ondernemer om met overtuigingskracht duidelijk te maken waarom zijn product een aanvulling is op een menukaart of aan het assortiment van een supermarkt en hoe het bijdraagt aan een sterke formule en loyale klanten.

Zie voor meer informatie het rapport Kleine producenten: smaakmakers van de food-industrie op de site van ABN AMRO.

bron: ABN AMRO, 10/02/17

THE HINDU

METROPLUS

So what's really at steak here?



CHENNAI OCTOBER 20, 2016 17:54 IST
UPDATED: DECEMBER 02, 2016 10:31 IST

There is a way to eat meat — and stay environmentally friendly — thanks to initiatives like Slow Meat, writes SHONALI MUTHALALY

Around 60 billion animals, without taking fish and other marine animals into account, are farmed and slaughtered every year to satisfy our need for meat. And this is a number set to double during the course of this century.

"WHAT EVEN ARE 'REAL PRODUCTS'?!" *



* Quotes are taken from interviews with experts in the food industry we met for this project in the period 2015-2017.



MEMORIES OF THE FUTURE

"An imaginative leap into the future"

Gerjan Streng

That's the description that Peter Schwartz gives for a scenario. It's a powerful and conceivable picture of the future. Not a prediction from a crystal ball, but an exploratory story enriching the current state of affairs and inevitable trends with a development of factors that are still uncertain for now.

Schwartz gained his experience with Shell's Scenarios Team. In the 1970s, under the supervision of Pierre Wack, this team developed alternative visions of the future to help business managers weigh up decisions in a broader context than simply business-as-usual. Long-term investments by oil companies forced them to consider a world that could be very different from today's. Simple extrapolation or continuation of the current course of action offers little guidance.

The American military think tank, RAND Corporation, has previously used scenario thinking for many much more extreme examples. Herman Kahn conceived unthinkable events that could have taken place in the Cold War, for example.¹ Unthinkable in the sense of being unimaginable: acts of nuclear warfare. He used game theory to investigate how the power blocks would respond to certain hypothetical actions by adversaries. It was by analysing the most extreme scenarios objectively that he was able to provide balance to the fatalistic Mutual Assured Destruction (MAD), which had actually prevailed as business-as-usual until then.

Fortunately, the impasse in thinking about our food system is less catastrophic than in those days. Yet, we still feel that things are changing and we are no longer in control. The trends – called driving forces in scenario thinking – indicate various developments, sometimes contradicting each other. A growing and richer world population needs more food and thus larger-scale production. The fertile

Netherlands already produces food for worldwide exports. But consumers also demand locally grown products. In an abstract sense, this is the discussion between global free trade and local protectionism. We're more conscious about our food choices and want a home-made or 'real' meal. At the same time, we're also looking for advanced – almost pharmaceutical – foodstuffs to give our health a helping hand. Producers are searching too: do they make their existing working methods smarter and more efficient to offer better quality and more volume at a lower price? Or do they believe in a market for particular products, which requires an investment in measures and resources up-front that will hopefully generate more revenue in the long run?

People who pursue their interest in food and the food system can easily get lost. Facts and opinions commingle and it's not always clear what is 'right'. These complexities make it difficult to estimate the consequences of our choices and actions. Sometimes it even feels like we don't have any choice at all, or that our decisions don't make much difference.

It's exactly in these types of situations that scenario thinking works best. Dealing with complexity and uncertainty is at the heart of this method. Peter Schwartz quotes the Swedish neurobiologist, David Ingvar, who calls these scenarios 'memories of the future'.² The method developed by Shell was never intended to come to a single comprehensive scenario. Instead, they speak of explorative scenarios and decision scenarios. It's the breadth of various conceivable, open scenarios that explore possible choices. These scenarios help us to pre-

¹ Kahn, Herman, 2007. *On Thermonuclear War*. Transaction Publishers

² Schwartz, Peter, 1991. *The art of the long view*. Crown Business, New York

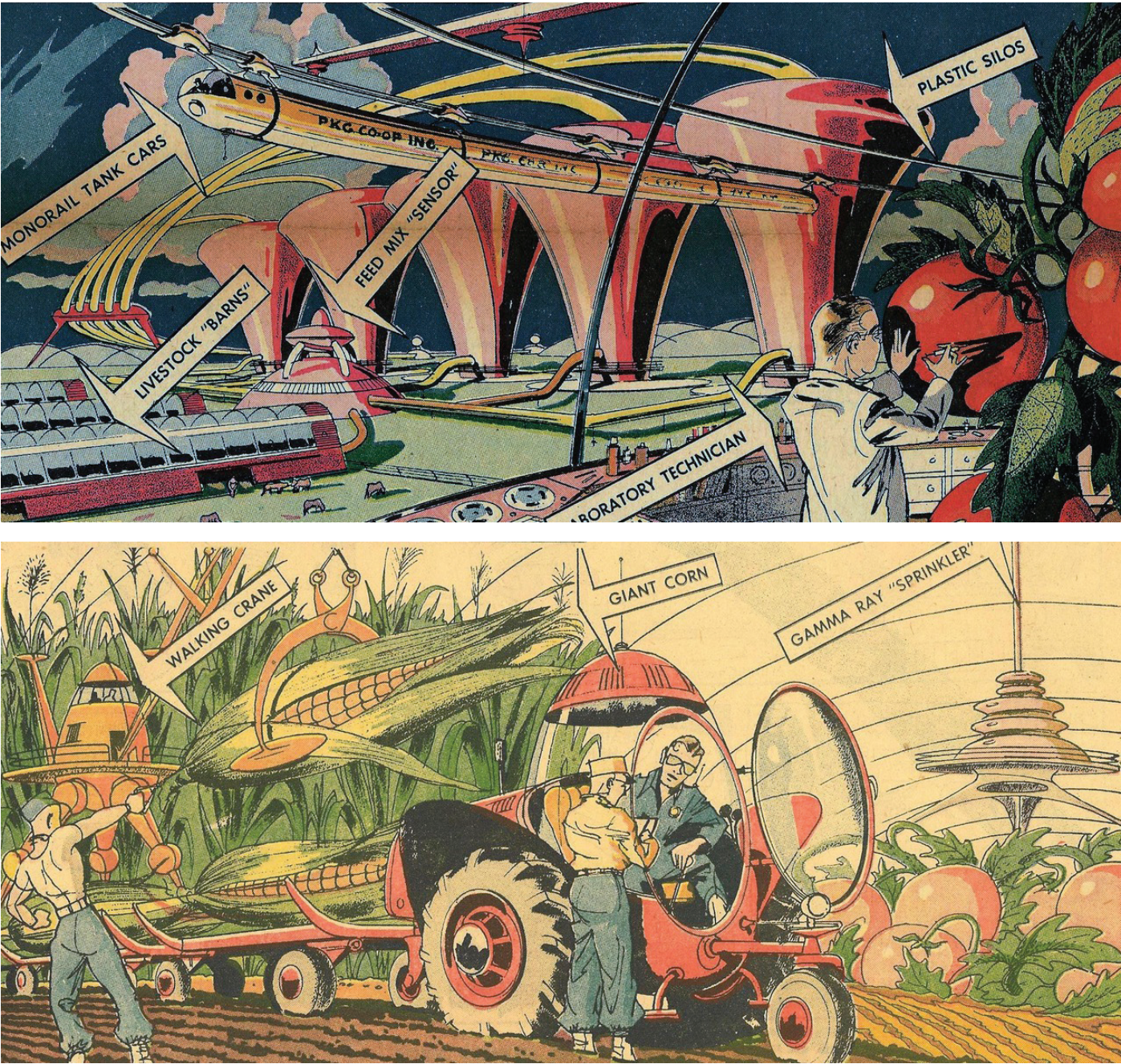
pare for several possible futures.³ And the exercise of creating these narratives allows us to build a memory, as if we've already experienced all actions and consequences. So if/when these events actually occur, they don't come as a surprise. We already know which actions will lead to a desired result.

This approach provides operational perspectives in situations which appear hopelessly uncertain. One method for developing scenarios uses two of the *critical uncertainties* – ‘pivotal elements that will act unpredictably, and thus might influence your future’⁴ – to create a set of axes. The key uncertainties – uncertain developments that influence the story – are on these axes. For the development of scenarios for the futures of the food industry and its landscapes, we're therefore looking for the two main uncertainties.

First of all, the global market is experiencing a transition. Major trading blocks are changing their attitudes towards free trade and protectionism. Global trade is growing in general, but the centers of gravity are shifting for both demand and supply. The Netherlands' role as a producer for the global market and as a hub in worldwide food logistics is a clear product of developments over the past decades. Transitions will inevitably affect this situation. Possible futures therefore need to take into account either an upscaling, with greater volume of trade and more production in the Netherlands. Or smaller-scale production to provide for a self-sufficient country, which means losing lots of throughput and the possibility of satisfying our demand outside the national borders.

The second key uncertainty looks at the attitude of the consumer. Do they accept new technologies in our food production and processing? Or does the demand for 'authentic' food become even greater? For the time being, demand is growing steadily for both. The Dutch Weed Burger even unites both directions in a single product: at music festivals, this innovative product – made from roasted soya beans, seaweed and algae – is grilled by artisan chefs. But these developments are still vulnerable to damage to reputation, and food safety incidents can result in a huge, sudden changes.

³ Wilkinson, Angela, Kupers, Roland, 2013. *Living in the Futures*. Harvard Business Review
⁴ Schwartz, Peter, 1991. *The art of the long view*. Crown Business, New York



Thijs van Spaandonk

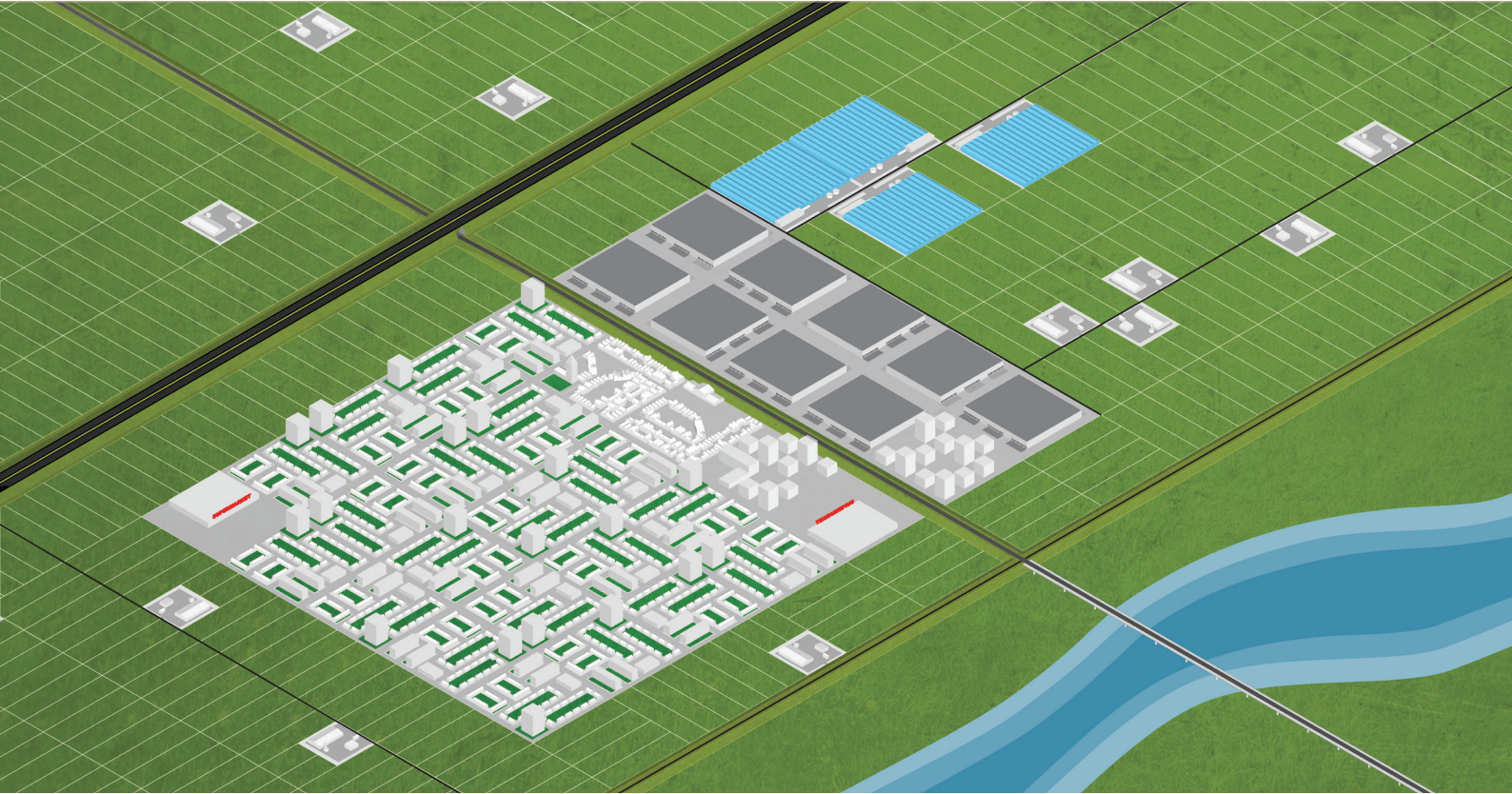
If we plot the key uncertainties and previously-described observations and trends on the axes, we see different developments taking place in the four quadrants. All four are conceivable and relevant to elaborate. We have typified and developed these four scenarios as follows:

- Organic Fantastic
- Supersize Me
- Silicon Valley
- Homegrown

These scenarios all have different effects on the

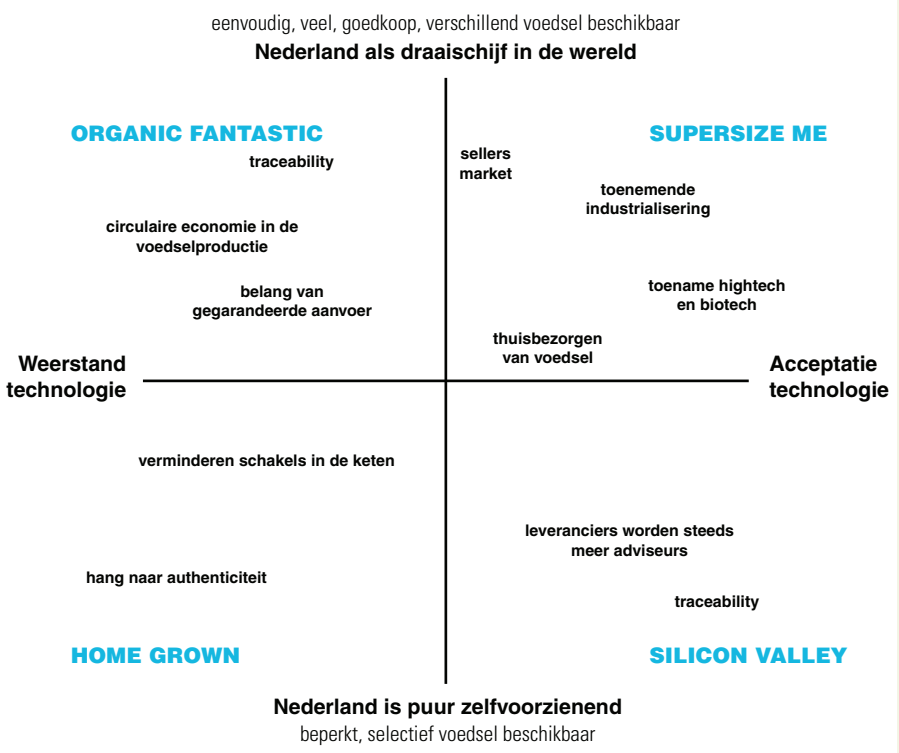
Dutch food landscape. To gain an insight into their consequences, we use a recognisable environment that could exist in many places in our country.

We find a city here with facilities like shops, schools and a station. On the periphery are the work locations: industrial estates and business parks with offices and, specifically for a food landscape, a number of greenhouses and large warehouses for storage and processing, with farms and meadows in the surrounding areas. Infrastructure connects the various functions with the rest of the region, country and world.



assenkruis

De scenario's komen voort uit de twee kernonzekerheden aangevuld met trends en ontwikkelingen.

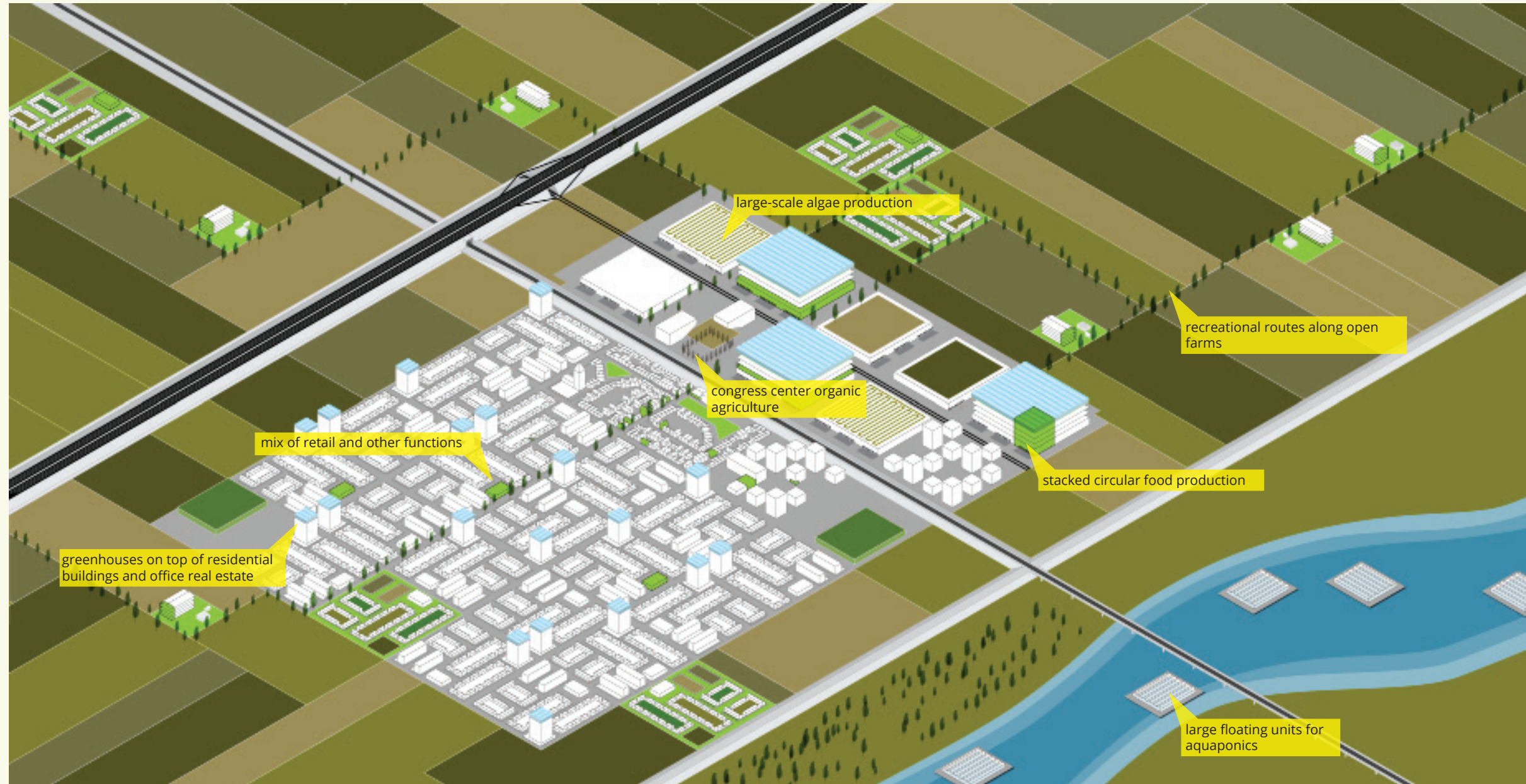


Organic Fantastic

This scenario assumes a future in which the food consumer is suspicious of technological modification of food, and demands high-quality food for which the origin can always be traced. This development could have been caused by a number of food scandals worldwide: horse meat contamination in Europe, milk and infant formula fraud in China, etc.

The origin of the food isn't determinative, as long as it's transparent. The Netherlands' good reputation for food safety is paying off: both small and large businesses are focusing their marketing on the global market. Sales are growing enormously, since the emerging middle classes in China and India also demand organic food. Large food multinationals need to join the trend of 'accountable' food. Food chains are totally transparent and fair. The increasing demand does however put pressure on domestic production. Expertise centres in Wageningen and Boskoop are doing good business by developing and distributing old and new techniques. A revaluation of age-old techniques such as crop rotation, the use of ecological fertiliser and pesticides, and intensive sea farming / agriculture in the North Sea and Wadden Sea help the Netherlands retain its huge surplus on the trade balance sheet for agricultural products.

Large barns for livestock along cycle and walking routes are open for visitors, even unannounced. This development makes the agricultural landscape more accessible. The city also merges with rural areas, with commercial urban farming and neighbourhood allotments taking over entire streets, car parks and unused industrial sites. Producers know that the public is critical. Consumers want to know who's responsible for their daily meals. So companies use their production location to help sell their products, combining marketing with sales. Many of these products can also be ordered directly from the producer, at the expense of the *one-size-fits-all formula* used by many supermarkets.

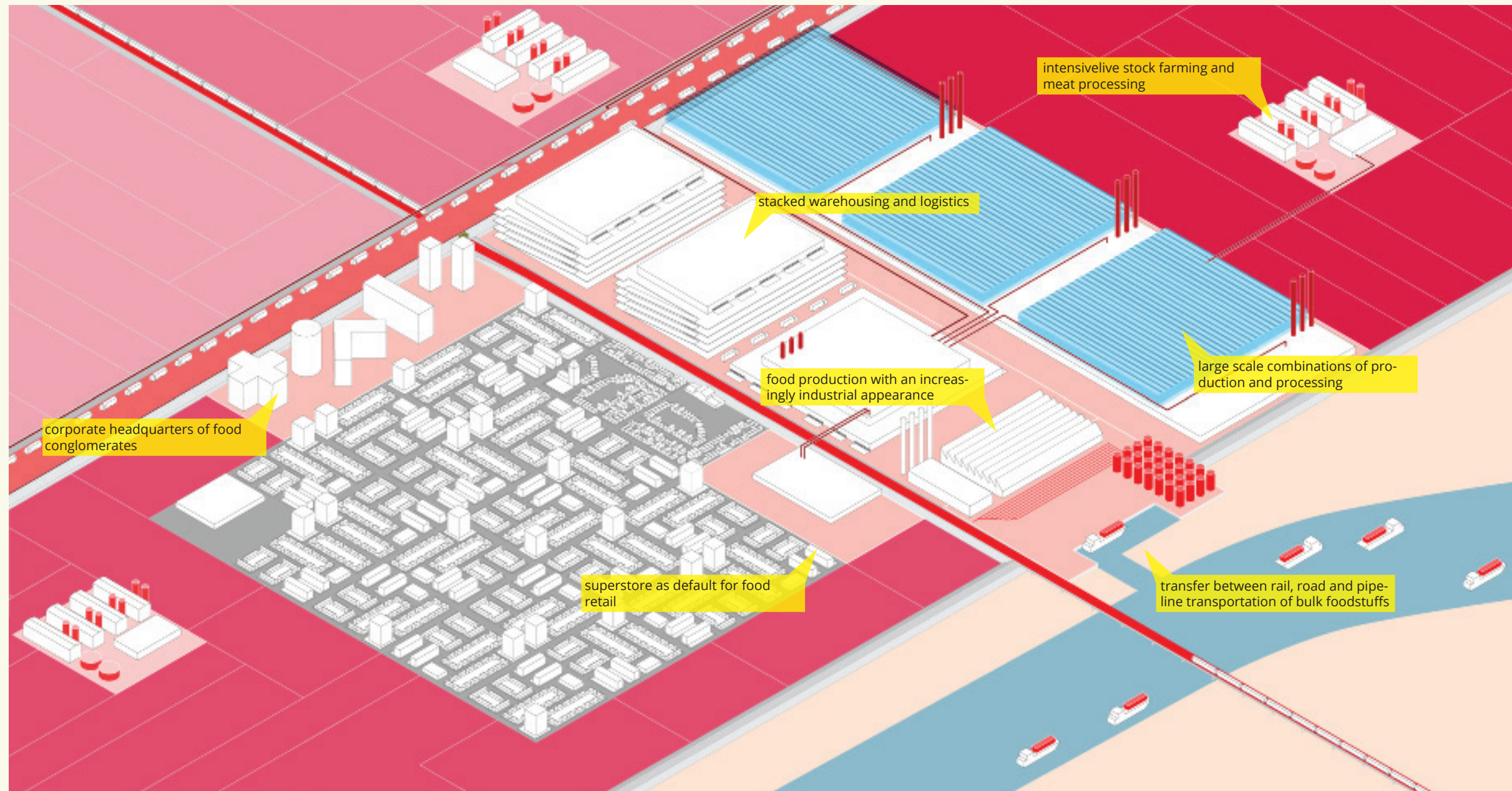


Supersize Me

This scenario focuses fully on scaling-up existing food production. Struggling farmers have sold their businesses and land to international investment funds which are now running much larger, specialized farm holdings. The average dairy farm now has 2000 cows, 20 times more than in 2016. The requirements for pasture, nitrogen, phosphate and milk quotas have been loosened. These chemical resources are eagerly used by the circular economy since petroleum is no longer available. The transportation of chemicals causes much more road traffic than milk tankers. Additionally, pipelines for these substances connect rural areas with industrial complexes. The last bits of waste that really can't be used for anything else are used for generating energy by fermentation.

Food is traded on a global scale, and the Netherlands has an important role to play thanks to its location and available expertise. The logistics processes serve the whole world and earn our country lots of money. The transportation of bulk and raw materials have plummeted due to increasing costs of transportation. Processing our own commodities into high-value products increasingly takes place within the Netherlands. Processed products generate more profit and have a much higher value per volume. Because of the great importance of transport and increased fuel prices and carbon tax, chemical miles weigh heavier than food miles. Transportation by aeroplane is profitable for many foodstuffs. Trains full of baby food, cheese, confectionery and soft drinks travel along the New Silk Route, the railway link with China, to the new middle classes in Asia, every day. Storage and the processing industry are therefore concentrated around international gateways: airports, ports and container terminals on the railways.

Diversity in rural areas has completely disappeared: farming plots have merged and all focus on the same ten types of crops. The increase in acreage for greenhouse horticulture and use of genetic modification has raised revenues without needing any extra pesticides and fertiliser. This provides enough food to feed the world's 10 billion inhabitants. Our country's more prominent role as a hub means that every conceivable type of food is available all the time. Want a durian from Thailand or scorpion fillet from the Atacama Desert? Readily available from the hypermarket, where the choice is gigantic, although there are only five supermarket chains left in the whole of the Netherlands, one per purchasing organisation. Their power is strengthened by exclusive links with producers, who were previously part of the chains.



Silicon Valley

Technological development plays an important role in this scenario. A far-reaching policy for nature conservation, prevention of deforestation, etc. has reduced the amount of land available for cultivating food. High transport costs make it unfeasible to transport food all over the world. This cuts consumers in the Netherlands off from traditional food fiefdoms in other countries. Foodstuffs are only available if they're cultivated or made locally. To satisfy our omnivorous demand, production needs to be very varied with smaller-scale cultivation. *aan-om sterk gevarieerd, met kleinschaligere teelt.*

Our love for gadgets transfers to our appetites. Particular, innovative and composite food types are popular. Sometimes these are so advanced and so expensive that they're only given as a gift on special occasions such as weddings, birthdays and anniversaries: event food, as in the example of Japanese square watermelons.

Innovation is used to arrive at fundamentally new types of production. Think for example of alternative raw materials with algae and insects as a source of protein, high-tech precision agriculture by drones and special artificial light. This makes us much less dependent on the supply of raw materials and products from abroad. The quality of the environment (soil, water, air, etc.) is also greatly improved. Production and processing are extensively robotised, which improves food safety and makes some products suitable as a replacement for common medicines.

In this scenario, the Netherlands is self-sufficient, just like many other areas. Everyone faces the same challenges. Knowledge and expertise are shared extensively between the different areas. Many companies, which previously ran large-scale mass production, have applied their knowledge of processes into hard cash. The revenue from sales is perhaps greatly reduced, but producers from all over the world are investigating how they can optimise their own production. The black-box landscape is transformed into an advisory landscape: the place where showcase projects are exhibited.

Well-paid Dutch consultants travel all over the world to sell their advice. Marketers and storytellers travel with them, to offer a total package of story and product (under licence). Food Valley Wageningen, Meat Valley in Peel, Seed Valley in North Holland and Grass Valley in Friesland put Brainport Eindhoven in the shadow and compete with each other every year to see who scores the most patents.

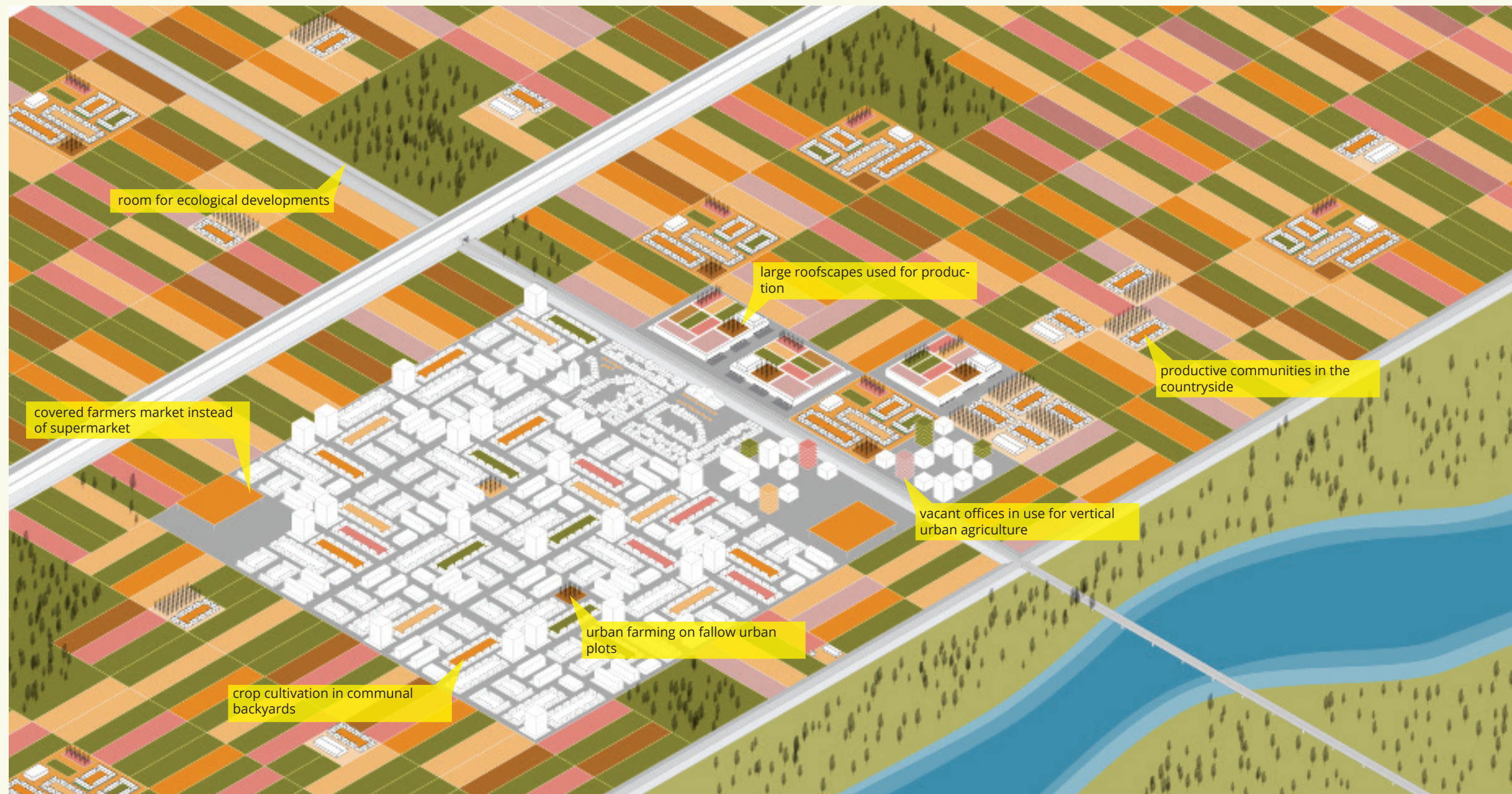


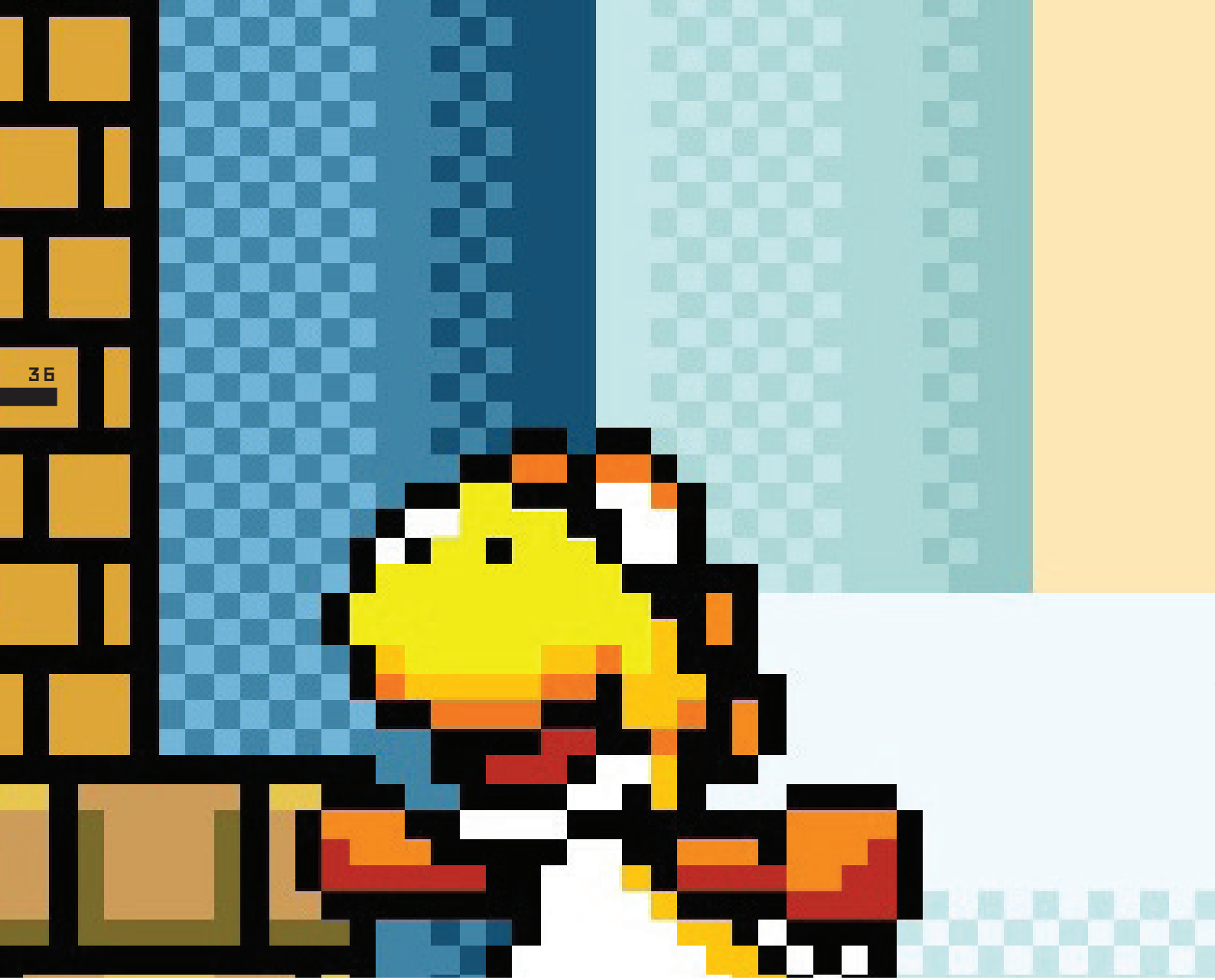
Home Grown

Trust plays an important role in this scenario. Anxiety about the unknown and strangers is greater than ever. This also applies for our relationship with food. The demand from abroad has almost fully collapsed because of protectionist measures and restrictive bilateral agreements. Dutch consumers also have little need for products from beyond the national borders. Where ignorance is bliss, 'tis folly to be wise. We prefer to focus on trusted products and retreat to our own circles. Autonomy and independence are important for arranging things ourselves. This results in a society built up from small but very close-knit communities with a strong inwards focus.

The basis for the food trade will be the local market where grower and buyer meet each weekly. Food miles are the most important yardstick for food logistics; not because of ideological persuasions, but through pure pragmatism. What you eat depends on the distance that the producer can travel to the market, or that you're prepared to cycle to pick products up. This makes logistics in the region more visible again. Areas with a diameter of around 30 kilometres provide a full diet of local products. Diversity in rural areas increases enormously to accommodate such a varied offering. We're forced to eat more seasonal foods. Fruit is mainly available in the summer and autumn. Sprouts prevail in the winter, when stew is always in the pot.

The ideal of strong, close-knit communities also involves a renewed appreciation for exchanging goods – bartering – to enhance good relationships. Local for local increases the value of labour, which is good for small-scale specialization within the community. There's a bakery in every village and every neighbourhood. Now that efficiency and low prices are no longer decisive factors, there's more room for developing natural environments. This ecological improvement pays off with a healthier country. There's no sense in having any bare, empty land. Communities settle on obsolete and abandoned farms to take care of production themselves. Everywhere has a vegetable garden with a soup kitchen next to it. The experience of eating together is priceless.





SERIOUS GAMES AND STORYTELLING



Will you be the first Minister of Food?

Klasien van de Zandschulp

How do you unlock the stories behind the food landscape? By playing the Ministry of Food game, of course! But why do we need these stories? And why in the form of a game?

The growing popularity of stories in interactive apps and games has strengthened the role of storytelling and made the new role of storytellers a popular topic for discussion. The topic of *storytelling* combined with interactivity and gaming is very popular.

When I developed a masterclass about digital storytelling together with Femke Deckers a few months ago, we discovered several facts that explain why storytelling is so important for us. As people, we're hard-wired for stories. Stories are the way in which we process and understand the world around us. We've been using stories to pass on standards, values and wisdom to others for centuries. Our brains react differently to facts and figures than to stories. In 2010, neuroscientist Uri Hasson developed the *neuro-coupling* model. Functional MRI studies have shown that when a story is told, the brains of the teller and listener synchronise; the same areas of the brain become active in both people. You can say that the telling of a story can transfer emotions and thoughts and so cause a level of empathy. This makes storytelling a powerful tool for exercising influence on the world around us – a skill that writers, politicians and artists are grateful to make use of.

And the reason why storytelling is so popular now is perhaps because we're living in an age of information overload. The internet and mobile phones confront us with endless amounts of information. Consider Wikipedia, for example, and the continuo-

us flow of social media updates. We're constantly adapting the way in which we explain and pass on information to the media available. Databases and algorithms seem to construe stories for us in the form of time lines. For example, existing media forces boxed-up algorithms on us through the short and sensational messages that break through our *filter bubbles* (personalised and selective notification filters).

This method of transferring information lacks the power of storytelling. We have enough access to information, but often still lack ways of interpreting, understanding, improving and forming our own opinions about it. This is exactly where a storyteller adds value, according to Susan Sontag (2004).

"There is an essential distinction between stories, which have, as their goal, an end, completeness, closure, and information, which is always, by definition, partial, incomplete, fragmentary [...] a great storyteller helps us to figure out not only what matters in the world, but also why it matters."

- Susan Sontag

Games, like stories, have long been a form of entertainment for people. Serious games were even around in the Renaissance period. The term '*serio ludere*' refers to a mild form of humour when explaining a serious topic. Games were used to pass on serious information. In 1938, Johan Huizinga described in his work, *Homo Ludens*, how play is a necessary condition for progressing culture and society. The term 'serious game' appeared in 1970 in the same form as we use it now. Clark Abt wrote about the use of games for educational purposes for military personnel, to study the conflicts of the Cold War at an international level. He used the following definition for a serious game:

“Games may be played seriously or casually. We are concerned with serious games in the sense that these games have an explicit and carefully thought-out educational purpose and are not intended to be played primarily for amusement. This does not mean that serious games are not, or should not be, entertaining.”
- Clark Abt

As I explained earlier about storytelling, we also learn about our affinity with games in neuroscience. Science teaches us that gaming stimulates brain development. Founder of the National Institute for Play, Stuart Brown, explains his book, *‘Play: How it Shapes the Brain, Opens the Imagination, and Invigorates the Soul’* (2009), that nothing stimulates the brain as much as games. Knowledge lasts longer when it’s acquired through gaming.

In a game, the player has an influence on the story, can make choices, and participate. If the player is a participant in a network of stories, they are challenged to form their own opinion, investigate, and make active choices. This activity in the game contributes to the player’s learning curve. Edgar Dale visualises his research results in a pyramid model, *The Cone of Learning*, from passive to participative. His research shows that after two weeks we remember 10% of what we’ve read, 50% of what we’ve seen and heard, and 90% of what we’ve experienced, said and done ourselves.

By providing information in the form of interactive stories and games, classic storytellers (e.g. teachers, writers, journalists) change their role from simply transferring informative stories to being a mentor in the use of this information. The player becomes a storyteller him/herself, as it were, by creating their own story using these tools. The storyteller creates the context in which players can form their own stories. The player then adds their own opinion and meaning to this.

Multidisciplinary teams are created to develop these interactive stories. A storyteller needs a developer and an interaction designer to develop the story into an interactive environment. The gaming sector is leading the way when it comes to knowledge and experience in interactive story worlds. Even so, this sector still seems to be very much out on its own. Game designers and developers are often missing from multidisciplinary teams. The knowledge for designing interactive games and creating complex story lines is there. Now just the crossover with domains such as journalism, architecture, literature, art and the government remains.

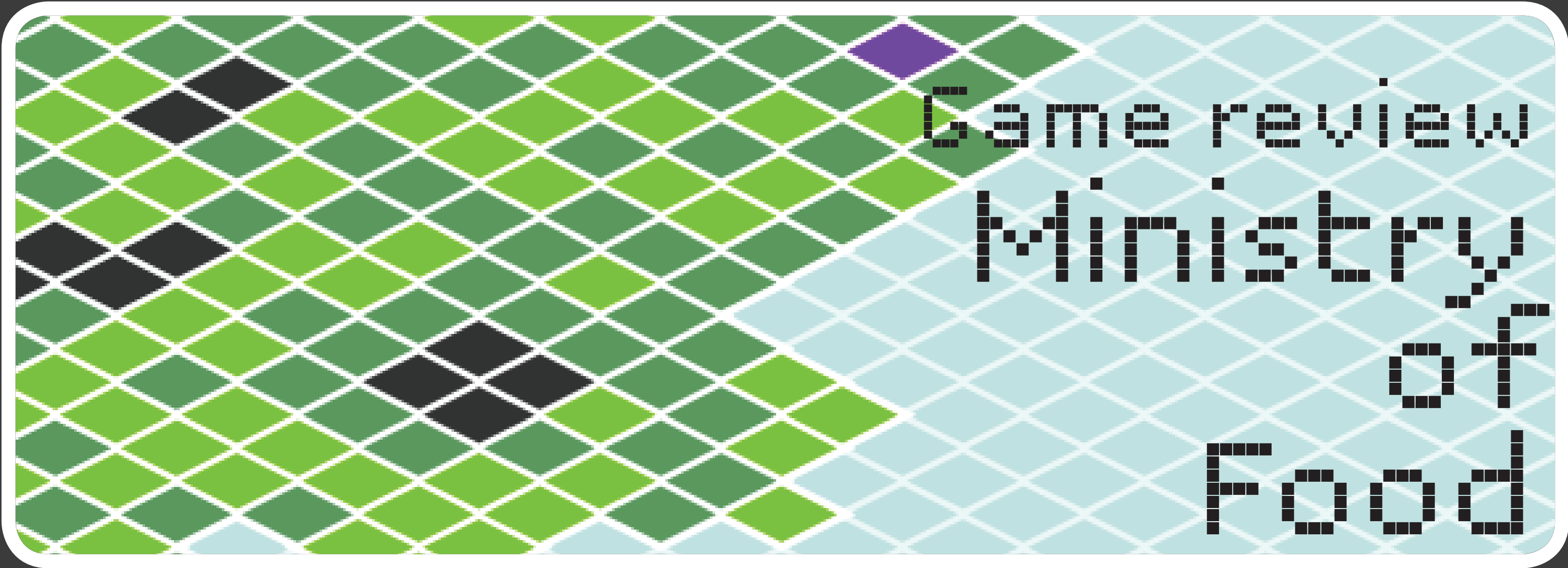
The Ministry of Food project wants to make a significant contribution to this by allowing the complexity of our food landscape be experienced as a serious game with interactive narratives. There is currently a lot of speculation and complaining about our eating habits, the intensification of agriculture, and the consequences of the changing food landscape, but no solutions are being offered. The Ministry of Food is trying to provide an independent exploration of this topic, without pointing fingers or accusing any specific parties. By making your own choices in the story, you change the food landscape and are aware of the consequences.

Form your own opinion and break through this filter bubble... Dare you take the challenge? **Will you be the first Minister of Food?**



Champlain 1603

Canadian studio Turbulent makes you experience the stories of Canada’s past with Camplain 1603, an educational serious game.
<http://revedechamplain.com>



Can you survive as Minister of Food?

42

Klasien van de Zandschulp

The first term in office is complete. Fortunately, I haven't been fired, but it certainly wasn't easy playing the role of minister. I tried to pursue an Organic Fantastic food landscape. Unfortunately, this wasn't very easy, and I was faced with difficult choices.

Storytelling

The game starts with a story of your appointment as Minister of Food. You go out on field trips to investigate and learn what is happening in the country in terms of sustainability and food. Then you make your own policy.

The clever concept of the game keeps it exciting from beginning to end. You set your own priorities and policy, but you'll soon notice it's more difficult to achieve than you'd think. There are, after all, lots of issues to consider, such as farmers who face bankruptcy and go on strike, suppliers who need money for innovation, and citizens demanding affordable food. You name it.

The gameplay is alternated with short documentaries and news reports. This doesn't just help inspire

your decisions; it's also educational. The short documentaries in combination with the game result in a very educational and valuable experience. So it's a serious game!

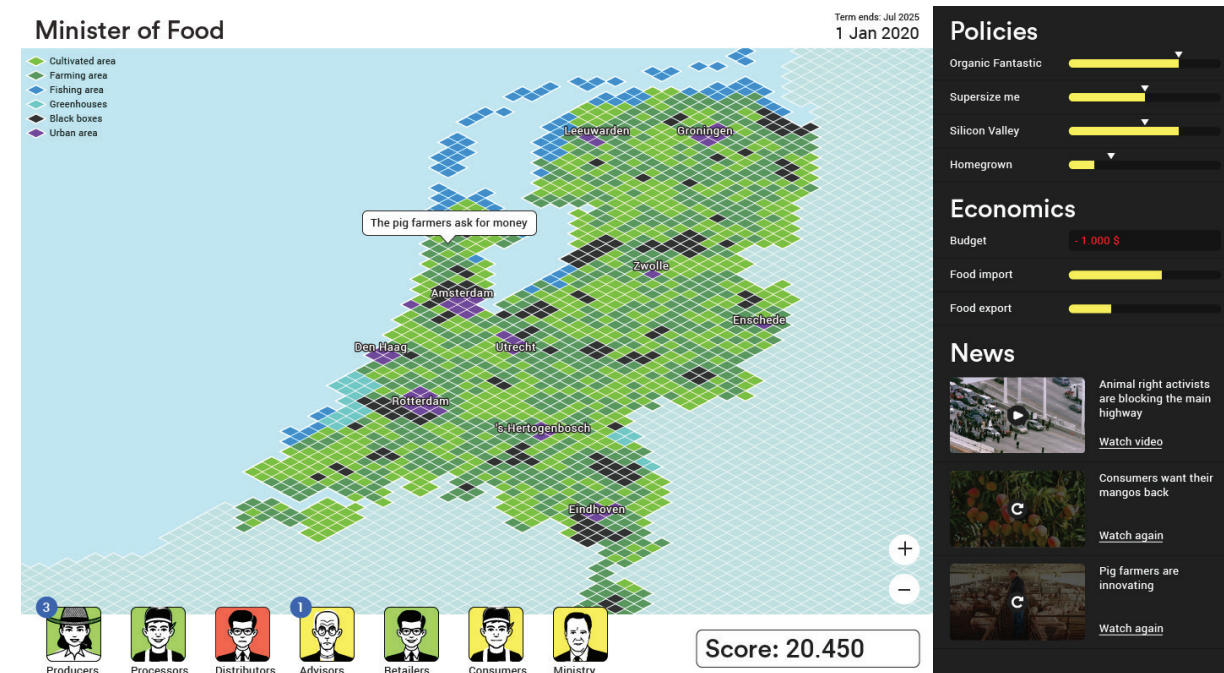
Augmented reality

Ministry of Food is a free desktop game with a mobile version too. The mobile version adds an extra dimension to the game experience. When you click on the AR icon, you see a virtual layer around you. This layer shows what the landscape would look like wherever you are at that moment, based on choices you have made in the game.

Educational

De documentaires in het spel leggen veel uit over de voedselproblematiek op het moment. We leven in een tijdperk waar de consument de grootste macht heeft en bepaalt hoe ons voedsellandschap eruit ziet. Het is duidelijk dat de makers van het spel ons dit willen laten beseffen. Na het spelen van dit spel dacht ik toch wel twee keer na over het eten dat bij mij in de koelkast staat.

Naast bewustwording over het voedsellandschap en de keuzes die we hierin (kunnen) maken, is het spel zeer interessant om een kijkje te geven in het Nederlandse landschap. Veel gebieden worden bezet door zwarte dozen, ook wel het zwartedozenlandschap genoemd. Deze zwarte dozen hebben een onduidelijke functie, vaak wordt hier voedsel verpakt of opgeslagen. Op basis van je keuzes in het spel zie je deze zwarte gebieden groter of kleiner worden. Door een handige zoomfunctie, vergelijkbaar met Google Maps, kun je op het landschap inzoomen voor een close-up. Het is erg interessant om eens in te zoomen in je eigen omgeving om te zien hoe dit kan veranderen als je bijvoorbeeld een biologisch voedsellandschap nastreeft.



How does the game work?

Storyline

You're the first Minister of Food. You have a budget and go on a research trip to gain information to decide your policy. You're helped in this by a panel of experts, but you also need to keep all stakeholders, such as consumers, producers and supermarkets, happy. They will regularly ask you for help.

The aim

Implement your policy within your term of office and keep the party leader, stakeholders and consumers happy. Only then will you receive the maximum number of points.

Game rules

A score and the time are kept. Your aim is to achieve the highest possible score, within the time given, based on your target policy and the satisfaction of your party and stakeholders.

At the end of the game, your score is compared with other scores (scoreboard) so that you know how well, or how badly, you've played.

Be careful you make the right decisions! If you overdo things because you're trying too hard to please everyone all the time, the prime minister can fire you for that too! <GAME OVER>

// DIT SPEL HEEFT MIJN KIJK OP HET NEDERLANDSE VOEDSELLANDSCHAP ZEKER BEÏNVLOED! //

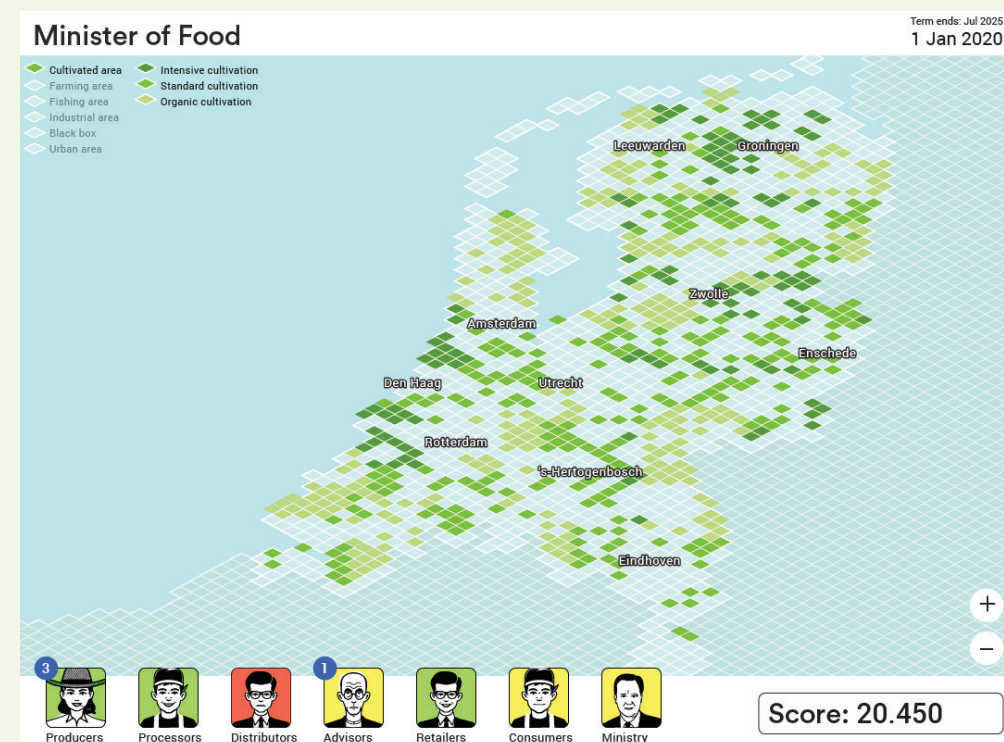
- DAAN HORNSTRA

Map

The map of the Netherlands is converted into pixels. Each pixel is calculated based on the game situation (percentage policy and influence on the environment).

Legend

De legenda laat de verschillende type gebieden zien. Door hierop te klikken is een filtering mogelijk. Filtering van de gebieden toont een nieuwe laag van gedetailleerde informatie.



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Minister of Food

Term ends: Jul 2025
1 Jan 2020

Time

The game has a time element that indicates a term of office. Within this time frame, it's your target to pursue your policy as much as possible while keeping all your stakeholders happy.

Information

This column provides information about how close you are to your aim, the state of your budget, and news updates to let you know how the country's residents are reacting to your choices.

Expertpanel

Your expert panel consists of all the stakeholders who influence your choices, helping you or sending you on the wrong path in trying to achieve your aim. Everyone on this panel can send you messages which you can respond to. This determines the progress of the game.

Score

Your score is determined based on your budget, how close to your aim you are, and your expert panel's assessment.

Zoom

You have the possibility of zooming in to look at specific areas.

Mobile game

The game can also be played on a mobile device thanks to its responsive design. The design is optimised for mobile devices.

The mobile version has extra features suitable for smartphones. Location-based information and augmented reality mean the user can get updates about what the landscape looks like at their current location according to choices made in the game. A virtual layer is displayed over the phone's camera image.

Minister of Food

Map Statistics News

Minister of Food

Map Statistics News

Policies

- Organic Fantastic
- Supersize me
- Silicon Valley
- Homegrown

Economics

Budget: -1.000 \$

Food import

Food export

News

- Animal right activists are blocking the main highway
- Consumers want their mangos back
- Pig farmers are innovating

Producers Processors Distributors Advisors

News and docu

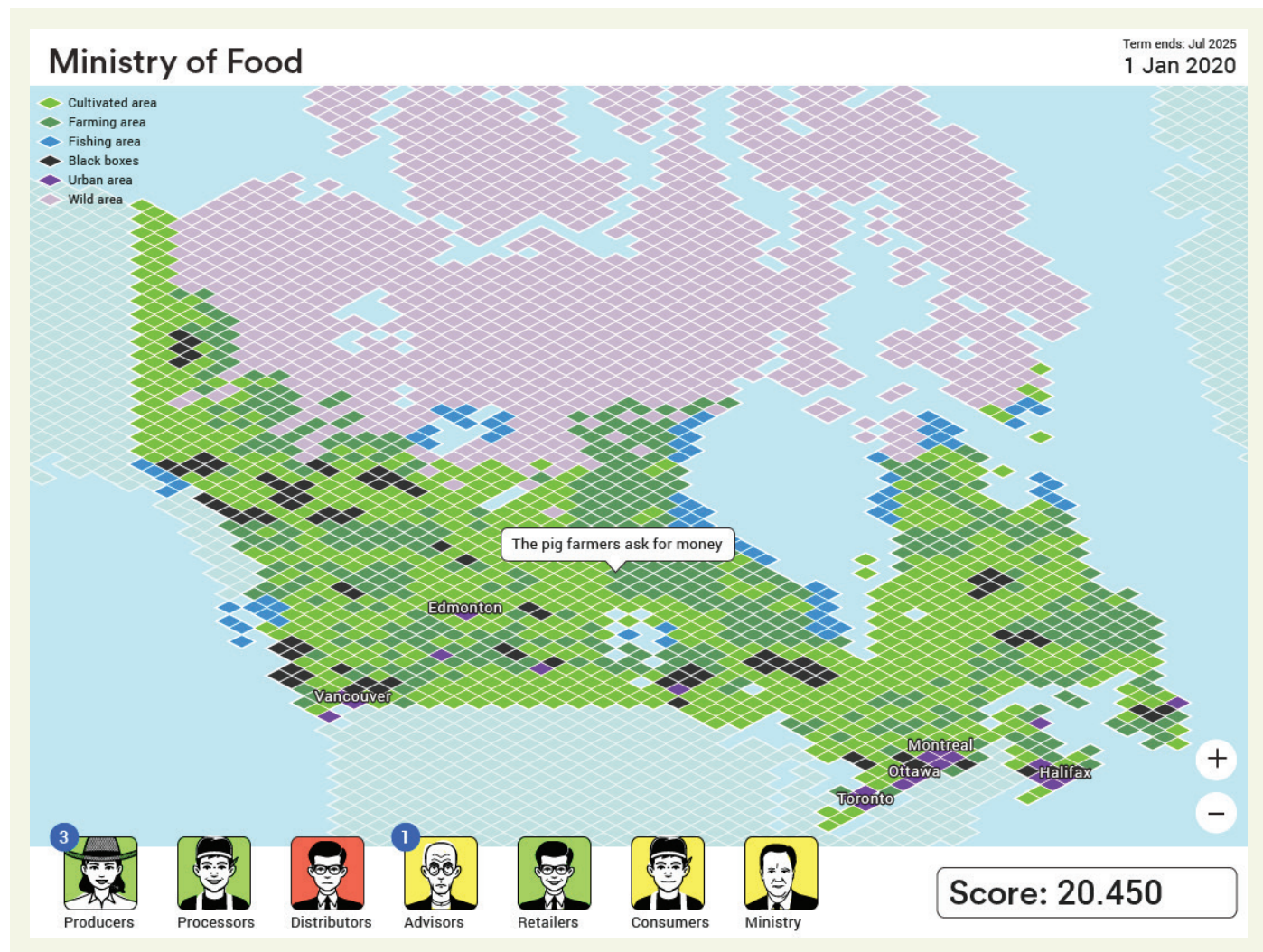
Newsflashes are short video clips that show what's happening in the country because of your policy. These are alternated with short documentaries that provide information about specific issues that you need to make important choices about.

Minister of Food

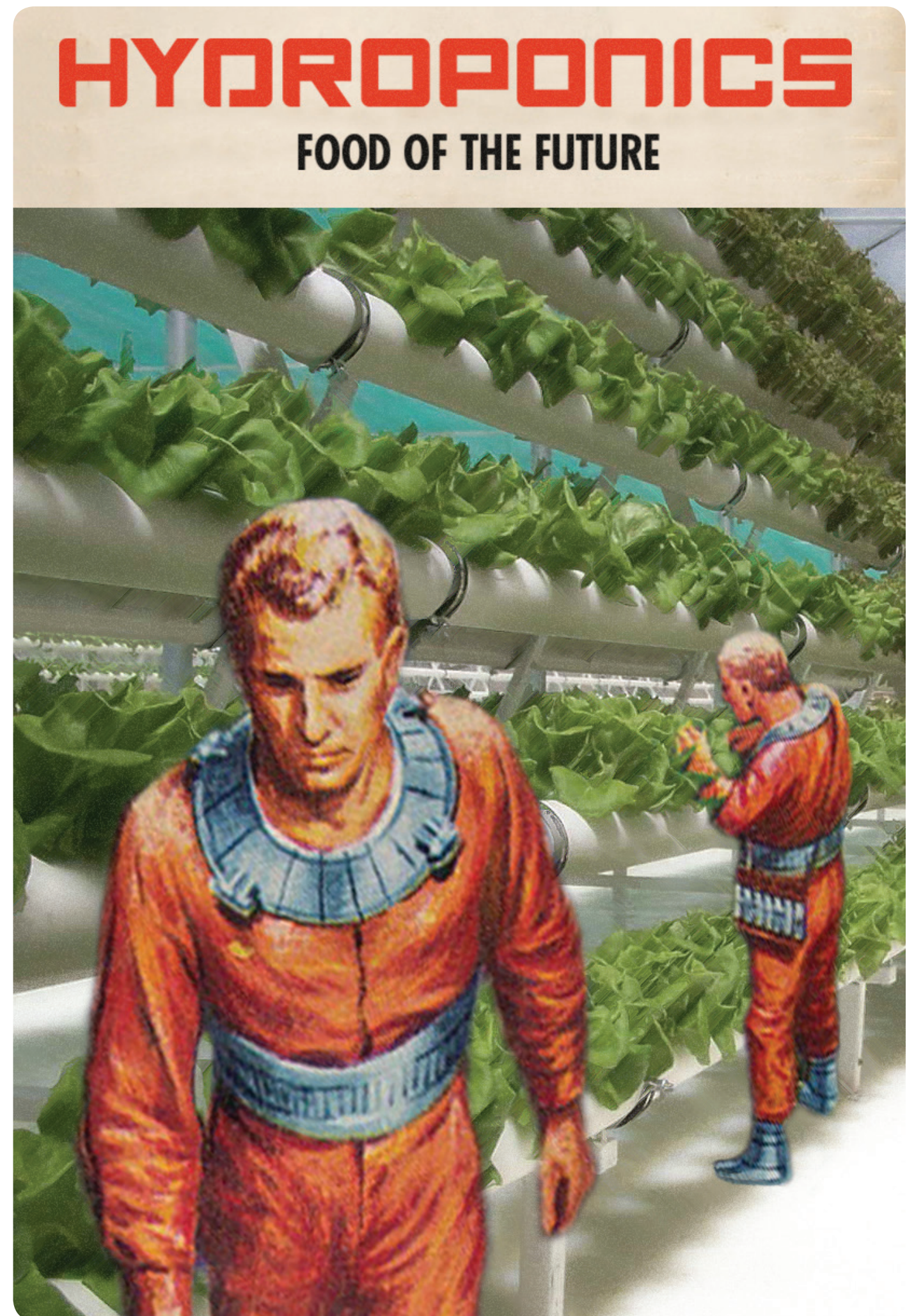
Term ends: Jul 2025
1 Jan 2020

Animal right activists are blocking the main highway

Score: 20,450

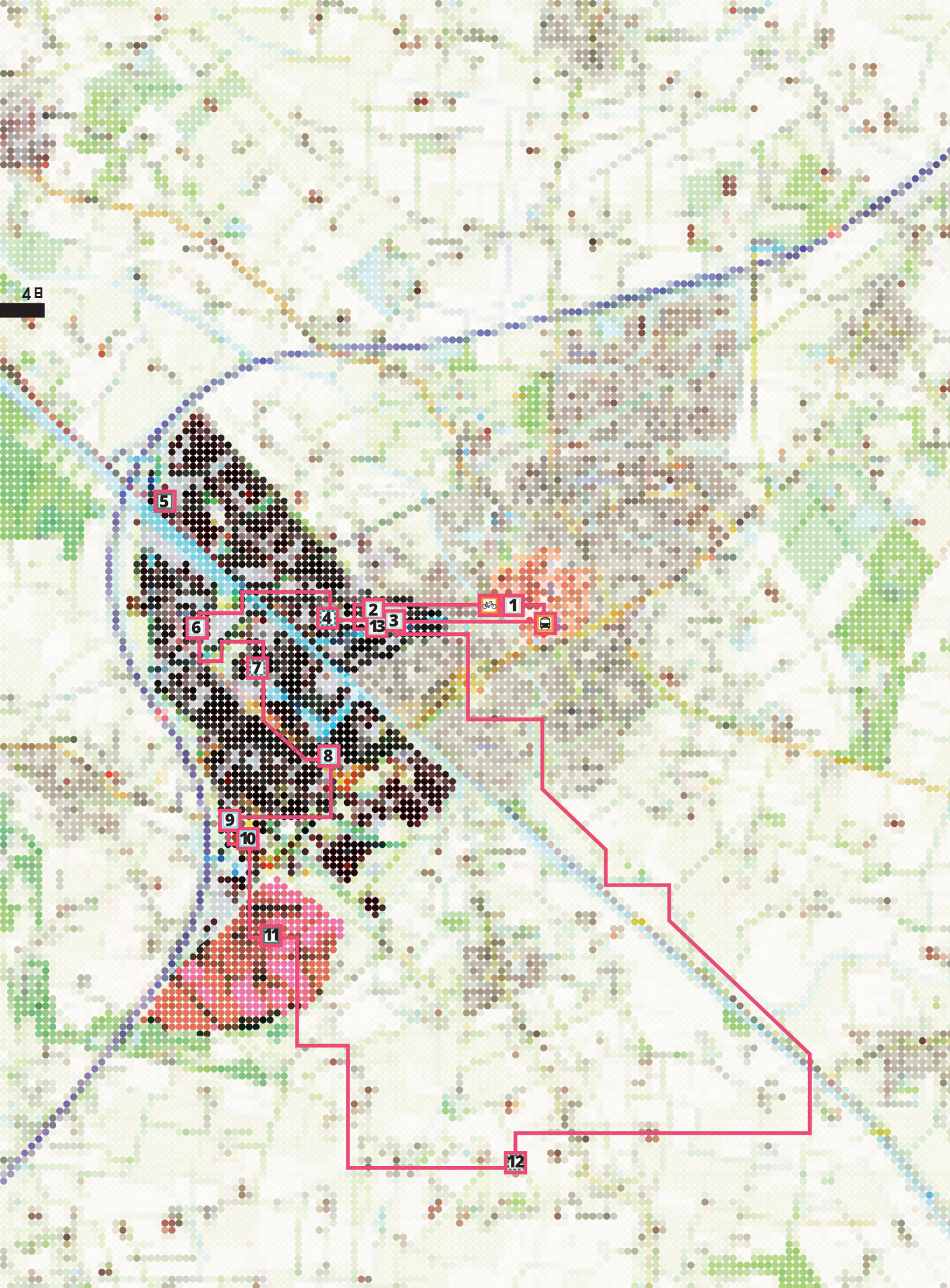


The Canadian government has decided to invest in the game to launch its own localised version. This version has similar rules, but the landscape is clearly different. This offers the possibility of comparing the Canadian landscape with the Dutch landscape, which is regulated to a much greater extent.



VEGHEL

A SAFARI THROUGH THE ENTIRE FOOD CHAIN



Peter Hermens

THIS weekend I went on a journey through the food village of Veghel, the capital of *AgriFood-Capital* – a collaborative partnership between businesses, governments and educational institutions in North East Brabant that is aiming to help the region excel and lead the way for agrifood. And it's working very well, with over 52,000 jobs in agrifood and an added value of €1.9 billion in the sector.

A large part of the spread-out parish of Veghel in Brabant can be defined as a black-box landscape. But in Veghel, people are doing all they can to unify all aspects of the food landscape, both inside and outside its own municipal boundary. This results in an interesting hybrid village climate, where artisan foods, small-scale production and the village character increasingly go hand in hand with the

industrial history, logistics industriousness and large-scale production and transshipment of food. We go on safari there.

It's quite difficult to orientate ourselves when we arrive at the bus station on Saturday morning. After a short walk towards Hoofdstraat, I arrive at **Vlas, Graan en Koffie** (Flax, Grain and Coffee). It's an attractive little tent with no pretensions. I have a chocolate cheesecake brownie with blackberry jam to accompany my ristretto coffee – to start the day properly.

I rent a bike from **Kuyper Fietsen** a short distance away, and cycle towards Kanaalzone. The canal, the Zuid-Willemsvaart, played a key role in the development of Veghel. Starting in the early 19th century, and later with the addition of a railway link – the German Line – Veghel became a junction for the transshipment of building materials and agricultural products, among other things. In 1914, the Noord-brabantse Christelijke Boerenbond (NCB – North Brabant Christian Farmers' Union) was established next to the port. This formed the start of an (inter) national concentration of food processing industries and wholesalers that continues to this day. Indeed, it's NCB-Lane that I cycle to.

Legenda

-  Centrum
-  Busstation
-  Fietsverhuur
-  Route
-  Punten op de route
-  Productie Industrie
-  Tussenhandel Verwerking Logistiek
-  Consumptie Zichtbaarheid Beleven
-  Noordkade
-  Zwartedozenlandschap
-  Food Park Veghel

1 Vlas, Graan & Koffie



2 Jumbo Foodmarkt / Proeffabriek



3 Wittern



4 DMV / FrieslandCampina



5 AgriFirm



6 Three-Sixty Verspillingsfabriek



7 Mars



8 ZiN Sligro



9 Hutten



10 VanderLande



11 Food Park Veghel



12 Daltonhoeve



13 P'Rooflokaal



Between NCB-lane and the old harbour wall by the Zuid-Willemsvaart canal is the **Noordkade** area, a bustling place that gives Veghel its second centre.

This was once the site of Europe’s largest animal feed factory, but now it’s a place full of heritage, art, culture, shops and food experiences. I spend a bit more time here.

I start by having a look round Jumbo’s **Foodmarkt**, the largest supermarket in the Netherlands with a surface area of 6,000m². This is a total experience for supermarket customers. As I do a tour of the grounds, I see the Jumbo head office, including an enormous distribution centre, on the other side of the harbour wall.

The local heritage has been respectfully preserved, retaining its rough and ready character – it’s been done very well. As I wander around the grounds, seeing various lovely shops and exhibitions, I visit **Wittern** for a genuine Veghel sausage roll and delicious salad. It’s a lovely treat in the beautiful conservatory, with a view out over the canal.

I come back here later this evening, but first I want to explore the Veghel black-box landscape further on my safari. Just as you come away from Noordkade, you can gaze in wonder at the grandeur of the Dutch dairy sector. This is the site of **Friesland-Campina’s** largest factory. Lactose and caseinates

are produced here on a massive scale. These ingredients have a wide variety of uses, such as in baby food and pharmacy products. The factory serves six billion people with its products every year. The safety requirements are strict and the fences high. A quick glimpse from outside the fence is all I can manage today.

I cycle to the to the other side of the canal via the Gazellen path. When I look to the west from on the bridge, I see the silos of the mixed feed giants **De Heus** and **AgriFirm** towering high above the black-box landscape.

On the other side of the bridge, I land back on the grounds of **Three-Sixty**, a trendy collective building for circular businesses. The **Verspillings-fabriek** is an impressive initiative: a central place where food waste is collected, assessed, processed and upgraded. The delicious ‘Barstensvol!’ soups are made here, for example.

Then I travel past Mars, another site that I can only look at from outside the fence, just like Friesland-Campina. But it’s cool to be able to cycle from one super-producer to another. **Mars** in Veghel is one of the world’s largest chocolate factories, and it’s still growing. 1,200 people work here.

I

n the afternoon, I have an appointment at **ZiN**, the inspiration lab at **Sligro’s** head office. It’s a great set-up, with workshops and training courses for food professionals offered above Sligro’s shop. I register for the ‘culinary excellence with fish’ course for tomorrow.

I continue cycling towards Montgomery-weg to visit the **Hutten Catering** building. The director here was the initiator behind the previously-mentioned waste factory. Hutten profiles itself as the Culinary Centre for Brabant. The building isn’t particularly noteworthy, but this just highlights the company philosophy even more. The 400-plus employees, or ‘collaborators’ as Hutten calls them, and guests, can enjoy the Grand Café with karaoke facilities, a gaming zone with twelve different arcade games, and an indoor centre where ‘collaborators’ can even play squash, football, volleyball and basketball in their free time. There’s a day care centre for the employees’ children, too. Time off through illness is far below the national average here, at 1.24%.

On the other side of the road is the lovely new **VanderLande Industries** head office. Specialising in logistics systems, everything from conveyor belts for airports to ingenious cross-docking systems for the foods sector are produced here.

As I cycle towards the Kempkens lands, I come across **Sligro’s** logistics centre and **Udea’s** dis-

tribution centre – the wholesaler in organic food-stuffs. The Kempkens is a beautiful Brabant landscape with poplar-lined lanes, hedgerows, farms and small-scale pastures. In the next ten years, however, a 70-hectare area, known as **Food Park Veghel**, is being developed here to accommodate the growth in the food sector. This will be accompanied by Foodworld, an initiative that’s all about the food experience and consumer opinions and behaviours.

I cycle further out into the outlying areas to visit **Daltonhoeve**, a breeding establishment where piglets are kept before going to the abattoir. You’re welcome to visit the livestock here, even without an appointment. I have some spare time left over after a nice tour, and decide to head back via a delightful route along the river Aa to Noordkade via Keldonk. I finish there with a delicious dinner at **P’Rooflo-kaal**, owned by the other great Veghel caterer: **Maison van den Boer**.

On the top floor of the monumental **Wiebenga grain silo**, I drink out of my glass and look out over the area where I’ve been on safari through food land today. Brabant’s relaxing ambiance, industry, working landscapes, art, growth and culture, all with food as a central theme: it’s still pioneering to this day, and it could get even better. But somehow or other, everything’s already working very well as it is in Veghel.

COLUMN

GAME CHANGERS IN THE FOOD INDUSTRY

Fleur Greebe

We're living in a fascinating 'food age'. There are huge developments in terms of new foods: innovations in how we have food delivered to us as well as cultural factors are having an incredibly large impact on our food industry. We're on the eve of a crucial turning point. How far will these developments ultimately go, and who's leading this change?

We need to deal with falling reserves of raw materials, more waste, an ageing population, population growth, and changing food requirements. All this is forcing the food industry to modernise. It's time for a new generation of ingredients, processes and new brands that can take on this **challenge**. Perhaps the food that we know today will disappear altogether? These radical changes require courage from the food industry. It's a huge challenge!

The main food innovations are currently coming out of Silicon Valley – such as roof boxes in which fish are bred whose poop is used to grow lettuce – or small, local start-ups – such as Impossible Foods, who produce Super Juicer, the vegan hamburgers. These ground-breaking developments underline the growing potential to evolve the future of our food and, more importantly, ultimately improve our health and set up more sustainable production methods.

An extremely progressive attitude is required for this evolution, to create radical changes. But why is this problem apparently only being picked up by Silicon Valley and small start-ups? Why aren't well-

known brands with plentiful financial resources, rich histories and expertise leading this innovation?

What if existing large brands were to enrich themselves with new technologies to make their services, products, production and transport more efficient? And what if they involved the consumer in these innovations? And worked with smaller circles just like start-ups? Wouldn't these innovations then happen even faster?

And doesn't the consumer have a big role to play in this evolution? What would happen if existing brands were to set up a 'cooperation' with consumers, joining forces, so the evolution could take place?

If we really want to make innovative products, which taste good and satisfy our wishes, we all need to adopt a new mindset. We need to cross borders and engage in new, unnatural collaborations.

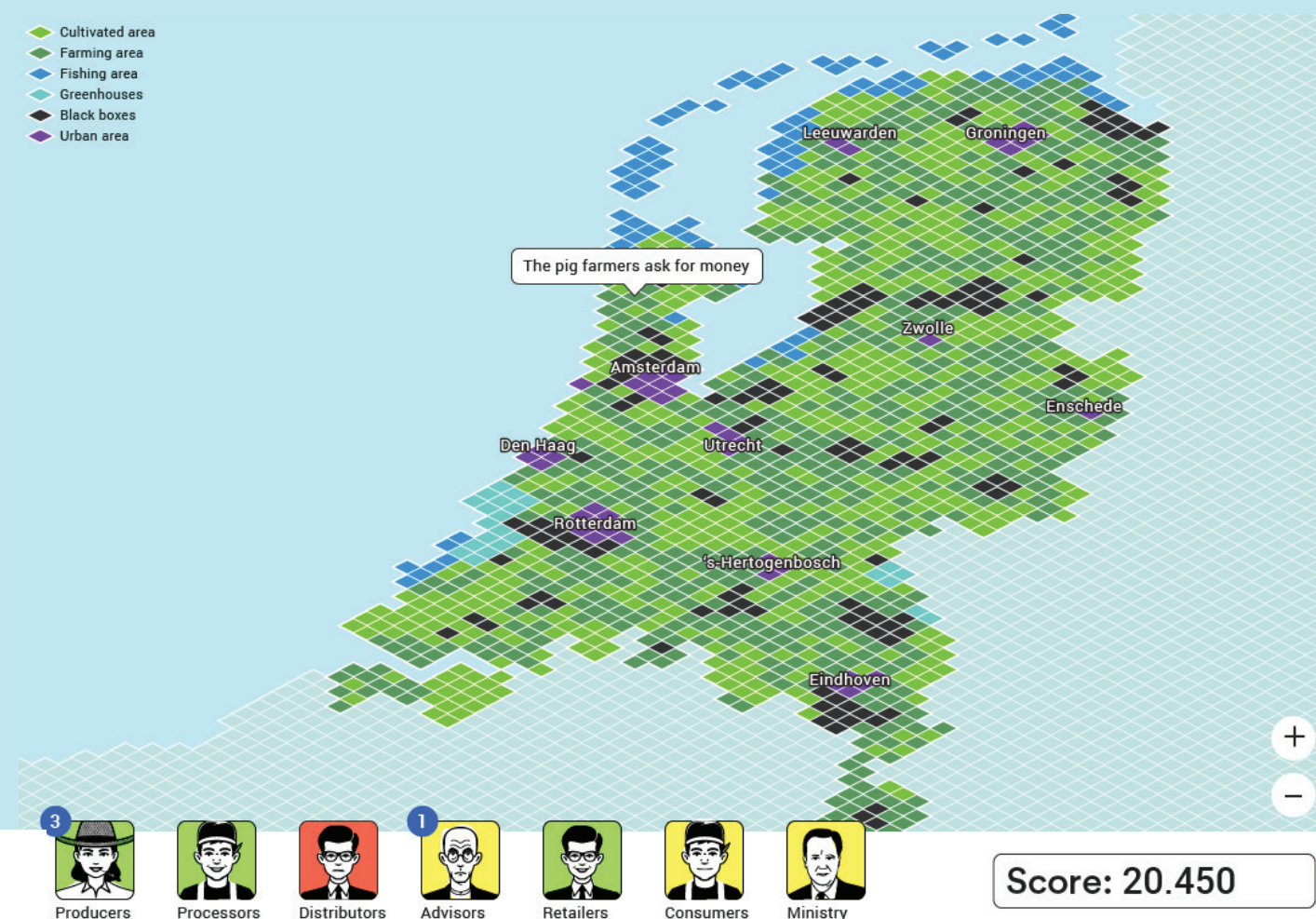
I see huge importance in making the existing food industry transparent and increasing consumer awareness. And on the other side, there needs to be an innovative **push** by existing brands, to prepare for the fact that in 20 years the shelves in the shops will look completely different, and the supermarkets of today will perhaps even become obsolete.


Will you become the first Minister of Food?

Embrace the complexity of our food landscape and set your own course. Learn to recognise the different perspectives, decide your policy, and be aware of the consequences. **Make up your mind!**

Do you dare you take the challenge? Will you be the first Minister of Food? Play the online game, **Ministry of Food**.

www.ministerievanvoedsel.org





Ministry of Food

There are 450 ways of asking for someone's attention on the back cover of a magazine, but our request is short and simple!

We've already done the preliminary work:

58 meetings, 5 expert panel sessions, 2 work experience places, 3 side-ideas developed, 1000 hours of design, 1 trip to Montreal, 250 strategic thinking hours, 450 hours of desk research, 80 hours of looking for co-financing, 201 cups of coffee, 25 blocks of cheese sampled, 4 cakes, 23 bags of crisps, 67 beers – all leading to one fantastic game concept with a huge number of possibilities!

Work together with us on the next step by looking at the food industry with a challenging mindset and invest, so that you can be the first to test the next level!

WWW.MINISTERIEVANVOEDSEL.ORG

BRIGHT
The Cloud Collective

**WERKEND
LANDSCHAP**

**LAVA
LAB**
✖

DIFFERENT COMPANY

LANDSCAPE//FOOD//GAME//STORYTELLING//TECHNOLOGY