NAMS

GREENWASH IS SIMPLE. GENUINELY SUSTAINABLE TOMATO GROWING IS COMPLICATED.

SUSTAINABILITY REPORT 2023

RESPONSIBLE FARMING STARTS WITH TRANSPARENCY.

If you really start to think about it, every human activity leaves its mark on the environment. So does the cultivation of tomatoes. If we're completely honest, here in the north we aren't exactly obliged to eat tomatoes during the winter season. But since tomatoes are Finland's second most popular vegetable* and they're eaten and sold here anyway, we think they should be produced responsibly. It's as simple as that. In other words, we want to cause as little harm as possible to our environment, our society, and our collective well-being. At NAMSi-la, where we grow our tomatoes, we want you to know what you're eating. That's why we put together this easily digestible report. It has all the information we have about growing tomatoes responsibly. We've been collecting this information already before we laid the foundation stone of NAMSi-la in 2016. And from that moment, we've been developing our knowledge and what we do by improving and refining our processes. We firmly believe that our work benefits all tomato lovers - from fertilizer manufacturers to the vegetable department managers in shops. And from our competitors to the tiny Bolognese-lovers in our families.

*Breaking news: the tomato is officially a fruit. Don't tell anyone.
We'll just call it a vegetable here like everyone does.

A taste of summer all year round

Sowing the seed

Planting

Flowering

Fast delivery to the shop

Transport

Tomato ripening

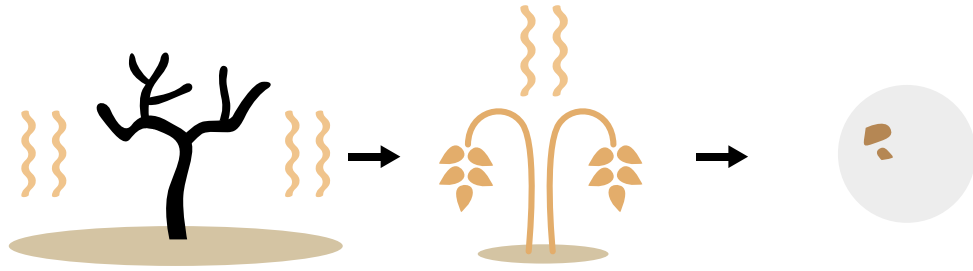
Cultivating and picking

NOW IT'S TIME TO PICK UP THE SHOVEL, BEFORE IT GETS REALLY SWEATY.

According to the final report of the 64th UN General Assembly*, humanity must be able to produce at least 50 % more food by 2050. Meanwhile, more than 70% of the world's freshwater resources are already being used by the Homo sapiens. The Climate Panel's Sixth Assessment Report*, published a few weeks ago, also makes grim reading. It says that climate change is accelerating soil degradation and desertification. We're in a hurry to find new ways to produce more food, with less land, fewer resources, and minimal environmental impact.

*** Sources:** fao.org, ipcc.ch

Climate change threatens food production. The risks increase the warmer it gets.



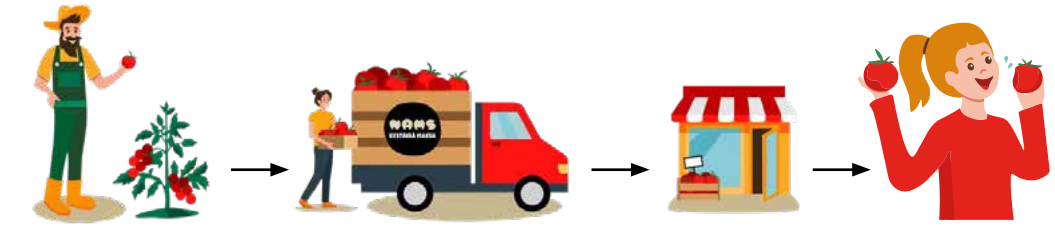
Changes in precipitation and extreme events → **Crop loss** → **Lack of food**

THE FEWER COOKS, THE BETTER THE TOMATO

Domestic tomato production in Finland is a complex series of biological, technological, social, and economic chains. Not to mention the mess it is elsewhere. Although we in Finland are in a good position to rely on production controls and legislation, it can sometimes be difficult to know all the intricacies of the food that is shipped in from further away. At NAMSila, we've always wanted to build production in such a way that it can withstand full scrutiny. We want to know at the molecular level what comes into our greenhouse and what goes out – from seeds to carbon dioxide and from cellulose to bumblebees. Our NAMS tomatoes are always picked when they're ripe and delivered directly to the store – and not like it's usually done: delivering raw tomatoes and letting them ripen in the warehouses. We keep the chains simple, the transport short, and the flavor rich so that our customers here under the birch and the star (a Finnish idiom about Finland, sorry!) can enjoy a tomato all year round with a clear conscience. Nom nom – or as we say in Finnish: NAMS! (That's simpler, isn't it?)

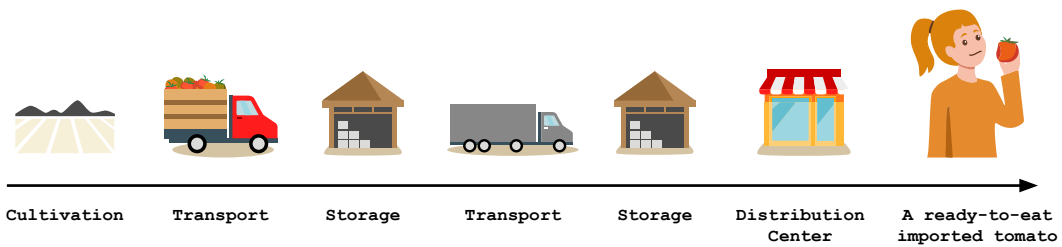
THE WAY OF THE NAMS TOMATO

Only ripe tomatoes are allowed in the truck.
The truck takes them directly to the store.



THE LONG JOURNEY OF THE IMPORTED TOMATO

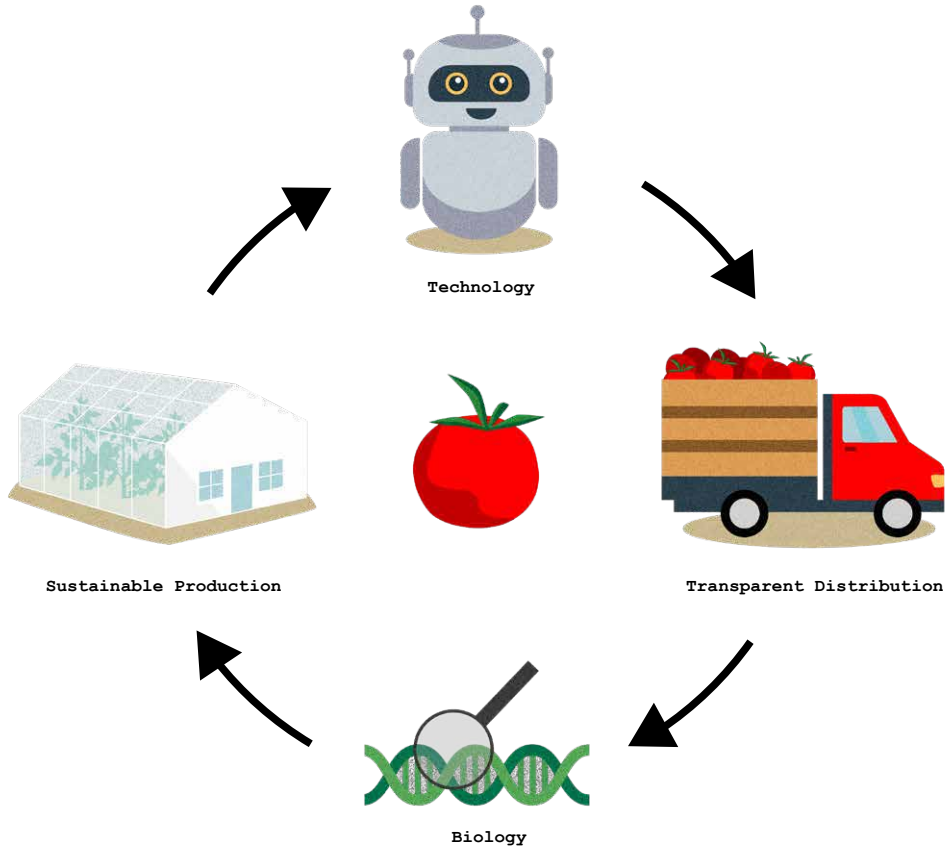
Raw during their journey across Europe, maturing and lying dormant in warehouses. Finally, anonymous and tasteless, they enter the stores' tomato boxes where they are touched, handled and mishandled by numerous consumers.



WE DO MORE WITH LESS

If you've been following the news at all lately, you can't help but hear about the challenges facing agriculture everywhere. Here in Finland, we need more domestic food production. From the very beginning, NAMSila's basic idea has been to combine the latest biological and technological know-how to produce more and better-tasting crops on less land, with as little impact on the environment as possible. We believe that caring for the environment should not be a difficult affair. By thinking a little more intelligently about food production, we can find solutions to the problem. The problem of how here in the Nordic conditions, we can produce more food of better quality with less environmental impact, and how we can get better wages, more tax revenue, and more jobs.

From the very beginning, the basic idea behind NAMSila has been to combine the latest biological and technological skills.



THE WIRING DIAGRAM OF A TOMATO PLANT

In Finnish literature, farming has humble beginnings: there's a swamp, a hoe (the tool), and a man named Jussi. Most of that is now a thing of the past, even the popularity of the name Jussi. Anyway. Modern farming is about joining a global value chain, all parts interdependent, whether we like it or not. Our job here in Finland is to demand that fertilizers, energy, beetles, and LED bulbs are still produced in an honest way. That reads: in an environmentally and socially responsible way, without magic tricks. We start from the premise that we know exactly what is being brought into NAMSila and what is being taken out. That's why we choose our partners from vendors whose actions we can also be held accountable for. Unlocking the modern food supply chain is still quite a bit of detective work. Even today, when we really start digging into things, it is difficult to know where and how every flavor and every bite is produced. That is why this report is a transparent and honest look at the situation we're in today. In the following pages, we'll go through the whole process of growing tomatoes and the environmental impact of its components as thoroughly as we can with our current knowledge. There are still many gaps and things whose origins are difficult to trace. The work continues, one bumblebee and methane molecule at a time. Our goal is a 100 % transparent production process for Finnish tomatoes.

WHAT IS A TOMATO MADE OF?

Energy:
1. Heat
2. Light
3. Water
4. Carbon dioxide

Biology:
5. Seedlings
6. Growing medium
7. Fertilizers
8. Crop Protection

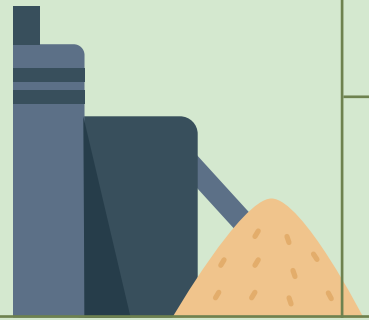
Climate Impact:
9. Greenhouse gas emissions
10. Organic waste

Distribution:
11. Packaging
12. Transport

Social responsibility:
13. Staff and social responsibility
14. Certifications

IF IT GETS COLD HERE, ALL OF PORI WILL WAKE UP.

Pori was chosen as the location for NAMSila mainly because we were able to connect our greenhouse directly to a large and controlled district heating network covering the whole city. The heat comes from Pori Energia's own power plants right next door. This means a couple of cool (quite literally: warm) things. First, power plants of that size are covered by international emissions trading, so the control of greenhouse gas and particulate emissions is mega-tight. This is not the case for small, single farm plants. Pori Energia's plant, which produces district heat and electricity, was originally built next to Satakunta's largest sawmill so that the sawmill's wood waste could be used for energy. The district heat we buy from the plant is 100% compensated and produced mainly from Finnish renewable wood chips. And then there is the fact that we at NAMS can sleep at night in peace, as more than half of the people of Pori make sure that the district heat production is not interrupted for a moment.



WHAT WE ARE ALREADY DOING WELL?

- We use 100% district heat, which is locally produced, environmentally friendly, and carefully controlled. As an achievement in 2023, we are proud to announce that we have also met our 100% carbon neutrality target - our district heating has Pori Energia's Full Green Guarantee, based on EU-sanctioned norms.
- The greenhouse has energy curtains to prevent waste energy from escaping.
- We save energy by recycling waste heat from lighting.
- Almost 80% of our energy is produced with wood chips from the region of Satakunta.
- Read more: porienergia.fi/yritys/Ymparisto

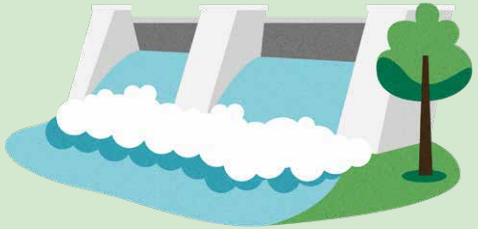
WHAT WE COULD STILL IMPROVE?

- We are exploring the possibility of producing carbon dioxide ourselves as a by-product of our own farming activities.
- We are improving our processes and controls, and developing our "precision heating concept", which allows us to produce just the right amount of heat in just the right way where you need it, when you need it.
- We are discussing with Pori Energia the use of waste heat from local industry.
- We are exploring the use of solar heat and the possibility of collecting heat during the summer and storing it underground for the winter months.

WHAT WE THINK ABOUT ENERGY AND ITS USE?

- Energy is a necessary evil that must be produced and used. But it can be done efficiently, energy-wisely, and carbon-neutrally. And we believe in in carefully controlled production.

WE DON'T RUN THE BEST LIGHT SHOW IN TOWN FOR FUN.



There are always those people who think everything is done wrong. And then there are those who want to know why things are done a certain way. And what's behind the decisions, and whether things can be done in a smarter way. Understandably, greenhouses are transparent and emit light to the outside. Naturally, this raises opinions. We think it is best for all concerned that our greenhouse is located in an urban environment, where there is already urban diffused light to mix in with ours. In urban settings, our lights will also not disturb the animals in the same way as they would in their natural habitat. Then there is another important aspect of lighting: energy consumption. In a greenhouse, after heating, it is lighting that consumes the most energy. That is why the supply and consumption of electricity were considered even before our greenhouse was built. We buy our electricity from the Nordic Power Exchange as earmarked old hydroelectric power. All energy production consumes the earth's resources in one way or another, and the best thing we can do for the environment is to focus on improving our own operations and conserving energy. That way, we can afford to pay a slightly higher price for more responsible electricity.

WHAT ARE WE ALREADY DOING WELL?

- We only buy and consume old hydropower.
- Our greenhouses are equipped with reflective energy curtains.
- We use hybrid lighting, combining the best of LED and HPS lamps. Good, cost-effective light with just the right amount of heat.
- We recycle the heat from the lamps back into the tomatoes.
- We automatically turn off the lighting for the summer months.
- We make the most of the heat generated by the sun, we don't heat unnecessarily.
- Tomato plants need 6h of sleep a night to circulate sugar throughout the plant, this helps us save energy, too.

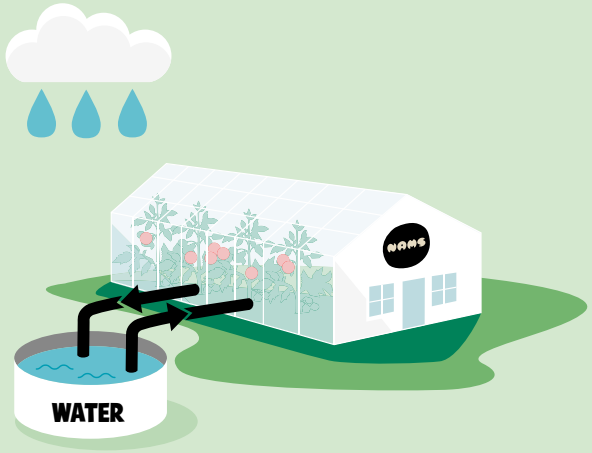
WHAT MORE COULD WE DO TO IMPROVE?

- Our total consumption is 30,000 MWh/year. We are investigating the use of solar energy for the running electricity costs of various pumps and fans.
- We monitor the benefits of LED lighting and move in line with the benefits identified.
- We are investigating the possibility of using wind power at night when Finland's overall consumption is at its lowest.

WHAT DO WE THINK ABOUT LIGHTING?

- One can't live without light. Artificially grown food will become more important, because it makes more sense to produce food locally than to transport it from elsewhere. We want to find efficient and sustainable ways to grow more food more efficiently and in a more environmentally friendly way.
- The best thing for greenhouse farming would be if our country's energy generation were to be developed for continuous use of renewable energy in decentralized systems and for balancing consumption with nuclear energy in a common Nordic grid.

MORE BAD NEWS: BIKINI SEASON IS CANCELLED, AND THE ETERNAL NOVEMBER CONTINUES.



We've heard that some people have a strange fantasy that climate change means that we here in Finland will soon have weather like the Costa Del Sol. Now is the time for these people to wake up. According to the science theorists, the story is that we are experiencing 'more extreme weather events, more rainfall and higher average annual temperatures'. In Finnish, this means that our 'Aunt Esther' (the unofficial Goddess of Rain) is even more productive, things will be gray, and many things are going haywire in biodiversity. For tomato growing, this has the positive side effect that there will continue to be plenty of water in Finland. This is not the case in the countries of the South, from where a large proportion of tomatoes imported by supermarkets are shipped here. Here in NAMSila we've had enough water, and things have been fine. We collect, purify, and store all the rainwater from the more than five hectares of roof. And we don't release our irrigation water into the soil but recycle all the overflow back into irrigation. This means we don't use any groundwater or tap water at all, as it's already in short supply sometimes.

We collect, purify and store all the rainwater from our more than five hectares of roofs.

WHAT WE ALREADY DO WELL?

- NAMS tomatoes are irrigated with disinfected meltwater and rainwater collected from the greenhouse roof.
- We have calculated and verified our water footprint using the Aware methodology.
- NAMS tomato farms have a higher water recycling rate than organic farms because our the tomatoes grow above ground in boxes. From them we can collect all the excess irrigation water and recycle it and nutrients in irrigation.
- The NAMS greenhouse is a fully enclosed system where we can monitor, and measure water use efficiency and water purity.
- NAMSila's water use is efficient, and evaporation is only about 20%
- Water use is monitored through the GlobalG.A.P.-quality management system, which includes annual reporting and risk assessments.

WHAT WE COULD STILL IMPROVE?

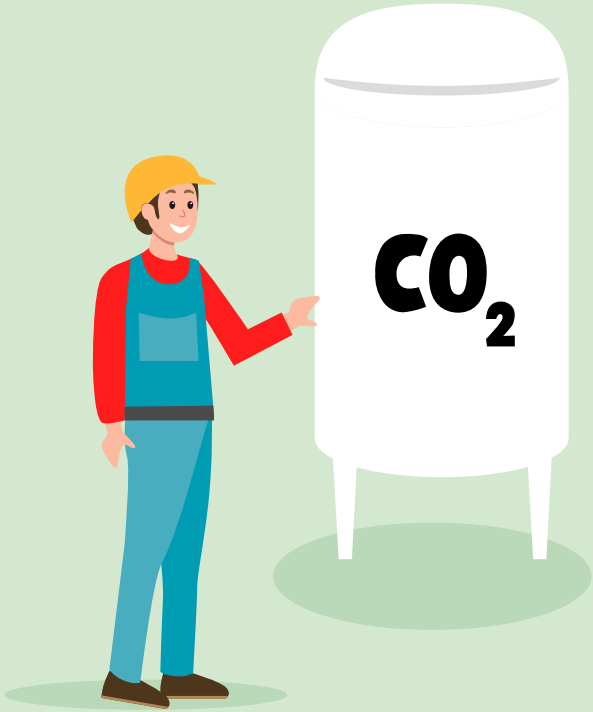
- Our water collection and recycling is already perhaps the most efficient in the world. We wonder whether we should start selling our know-how abroad. Perhaps we could bottle our success recipe?

WHAT WE THINK ABOUT WATER USE?

- In food production, the loss of potable water is one of the most critical issues globally, along with soil depletion. Climate change is accelerating both problems and agriculture is running out of time to respond. Our water expertise could be in demand abroad.

THE OLD ADAGE THAT YOU CAN ENCOURAGE FLOWERS TO GROW BY TALKING TO THEM IS NOT ENTIRELY FAR-FETCHED.

Carbon dioxide fertilization is used to enhance tomato growth under artificial production. The normal carbon dioxide concentration in the air (around 340 ppm) is not yet sufficient to produce the best growth results. Tomatoes require around 600 to 1000 ppm to grow. Unfortunately, no matter how many stories and awesome jokes we tell our flowers, our breath does not produce enough to quench the tomato plant's hunger. And if CO_2 levels are allowed to fall, the tomato will stop growing and there will be no point in using artificial light. That's why we import carbon dioxide for fertilization at NAMSila from Rajamäki, where it is produced as a by-product of the alcohol fermentation process. So, we remove carbon dioxide from the air and use it to grow tomatoes for human consumption. Of course, our whole operation also emits carbon dioxide, but those calculations and the balance of the whole thing are covered in a separate chapter later in this report.



WHAT ARE WE ALREADY DOING WELL?

- We buy our fertilizer carbon dioxide from a well-known, largest player in the Nordic countries: linde-gas.fi
- The fertilizer carbon dioxide we use is produced in Rajamäki by the alcohol fermentation process as a by-product.

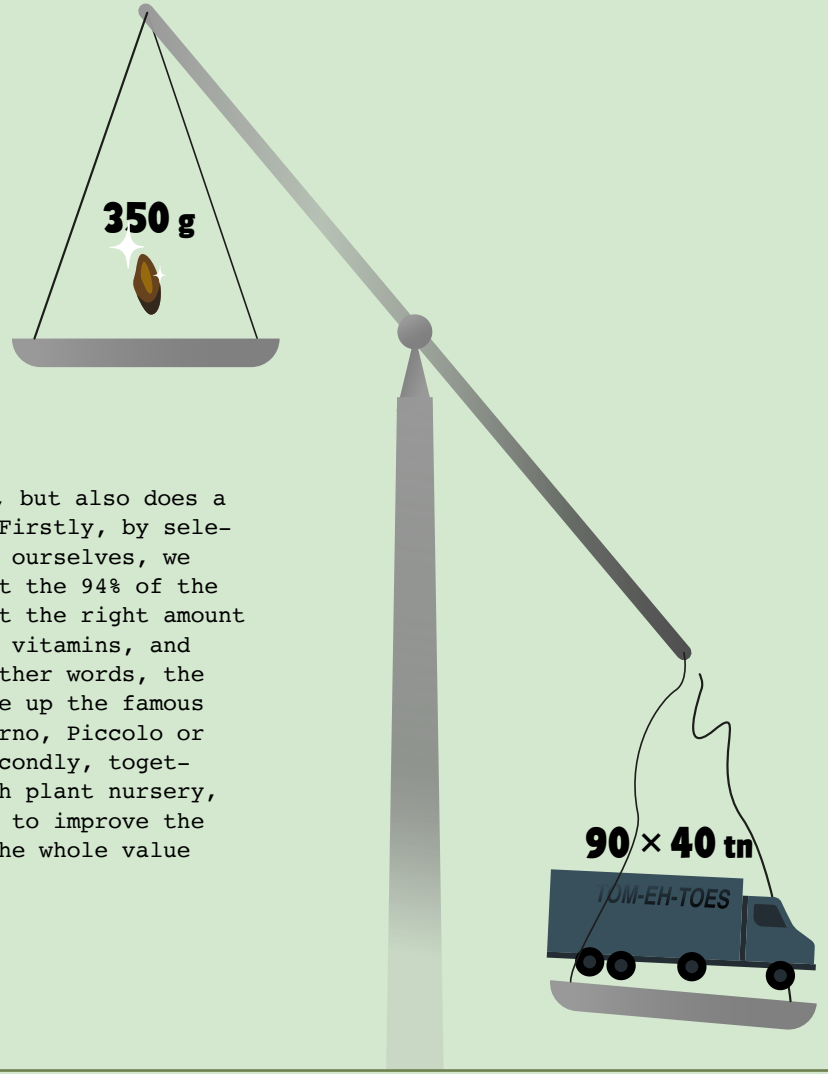
WHAT MORE COULD WE DO TO IMPROVE?

- We are exploring the possibility of producing carbon dioxide in our own greenhouse by isolating it from the air around the greenhouse.
- The same process could also generate heat.
- We are also interested in being part of a project to develop a decentralized carbon production model.

WHAT DO WE THINK ABOUT THE FUTURE OF CO_2 FERTILIZATION?

- From the point of view of tomato growing, carbon dioxide is the fuel of combustion, which we use to produce oxygen and tomatoes, i.e. to convert a greenhouse gas into food. The problem is that this whole process still produces more carbon dioxide than it can use. Solving this challenge is going to be at the heart of everything we do at NAMSila.

IT'S JUST SMARTER TO IMPORT SEEDS TO FINLAND THAN RAW TOMATOES.



About 94% of the weight of a tomato is water. And if you ask us, there's little point in transporting water from southern Europe, where it's in short supply anyway. And using diesel-based transportation is certainly not going to improve our climate. At these prices it doesn't make economic sense either. Our NAMS tomatoes are imported to Finland in the form of seeds. You don't have to be a math wizard to see it makes sense. It's basically shipping a few envelopefuls of seeds (smart) vs. shipping 90 truckfuls of raw tommies through Europe (downright insane). Optimizing transport not only minimizes CO_2 emissions, but also does a lot of other good. Firstly, by selecting the varieties ourselves, we can also ensure that the 94% of the liquid contains just the right amount of sugar, lycopene, vitamins, and various acids. In other words, the components that make up the famous taste of NAMS' Roterno, Piccolo or Encore tomatoes. Secondly, together with the Finnish plant nursery, we can work out how to improve the sustainability of the whole value chain.

Oy Sigg-Plant Ab
sigg-plant.com

WHAT WE ALREADY DO WELL?

- We reduce waste by buying the highest quality (read: not the cheapest) available seedlings.
- We buy our seedlings from a Finnish breeder and support Finnish agriculture: sigg-plant.com
- We keep transport distances as short as possible.
- We take advantage of the maximum lifespan of our seedlings, which in our greenhouse is a full year. By comparison, for imported tomatoes ripening in warehouses, it is only five to eight months.

WHAT WE COULD STILL IMPROVE?

- We are developing a new growing method that will allow us to grow our own plants. This would save emissions from transporting the seedlings.
- In the meantime, we are actively working with our seedling supplier to make centralized Finnish seedling production more environmentally friendly.

WHAT WE THINK ABOUT SEEDLINGS?

- At the moment, the large-scale benefits of growing seedlings are still outstripping the benefits of growing your own seedlings. It is therefore still, at least for the time being, more sensible to work with plant nurseries to develop sustainable principles for the centralized cultivation of tomato plants.

OUR CULTIVATION WORK IS FIRMLY ROOTED. IT'S ON A COMPLETELY ORGANIC BASIS.

The supply of peat-based growing media ran out, so this year we took the leap and switched to substitute solutions. Fortunately, we made a soft landing. From now on, we'll be using, for example, Jiffy Grow-bags, which contain 100% coconut substrate. It is an environmentally friendly and easy to care for material. When compressed and lightweight, they are easy and efficient to transport and store, and can be used to grow several rounds of tomatoes. But as always, we already have our binoculars on the future. And we don't mean the movie with Marty, Doc, and a metal-colored 1980's sports car. We're actively involved in the development of our cultivated curly-leaf pondweed. The moss is collected from the surface of the marsh, but in a way that the marsh will soon be as it was, and the collection of the moss will not cause emissions to the climate or waterways. It may one day be an even safer, more environmentally friendly, and domestic way to grow even more responsible tomatoes. But not yet ecologically and economically sound.

WHAT WE ALREADY DO WELL?

- We only use certified, hygienic, and completely organic growing media. Rockwool, which is used to grow a large proportion of the world's tomatoes, is not recyclable, and other newer growing media are not yet commercially viable on the scale of NAMSila.
- After use, we compost 100% of our growing medium.

WHAT WE COULD STILL IMPROVE?

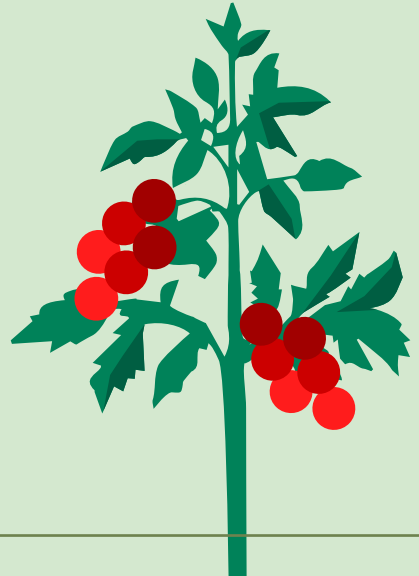
- We are ready to move away from coconut-based growing media as soon as there is an economically and ecologically sustainable alternative. Ideally, a solution should be found, for example, from domestic curly-leaf pondweed. We also want to further develop ways to repurpose our growing media for soil improvement.

WHAT WE THINK ABOUT FUTURE GROWTH PLATFORMS?

- The use of environmentally friendly growing media is one of the most crucial things for the planet. We need to find a sustainable way to grow without falling behind in efficiency. And when we say 'we', we don't mean that we're waiting for someone else on this planet to step up to the plate in a 'gotta do something' spirit. We are talking about ourselves. We're 100 % serious when we say that Finland can be a world leader in developing sustainable, recyclable growing media. And we intend to march ahead of the pack.

FROM THE EARTH, THE TOMATO IS BORN, AND TO THE EARTH, IT SHALL RETURN.

The natural cycle works in such a way that if you take a potato or a tomato from the ground, you must put a potato or a tomato back in. Otherwise, after a while, the potato or tomato supply will run out. To produce more food from less land, we need fertilizers. Fertilizer production is a complex chain of energy, raw materials, mining, and other things. It is really difficult for a small family farm in Finland to influence the process. Our thinking is that we take care of our part in the growing process as well and efficiently as possible. We recycle irrigation water and reuse it so that no nutrients run off into the soil, sea, or groundwater. We also monitor plant development closely and measure everything so that the plants receive just the right amount of fertilizer without overapplication. We also actively engage in dialogue with the global fertilizer industry to find the most sustainable methods of fertilizer production.



WHAT WE ALREADY DO WELL?

- We only buy clean, high-quality fertilizers.
- We recycle all fertilizers with the water to avoid waste.
- We measure nutrient levels in the seedling, water and growing medium once a week. We optimize fertilization so that our plants only get the right amount of fertilizer they need.

WHAT WE COULD STILL IMPROVE?

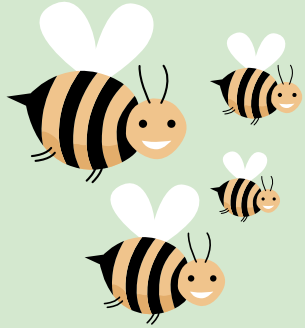
- We are looking for sources of fertilizer that are not dependent on the geopolitical situation.
- We are exploring the possibility of recovering nutrients from bio-waste and possibly also using other bio-waste sources in the region to achieve full fertilizer self-sufficiency.

WHAT WE THINK ABOUT FERTILIZERS?

- Fertilizers are vital to agriculture as a whole and are not harmful in themselves, but their current production and use has a major negative impact on our environment. Current nitrogen fertilizer production processes are fossil energy intensive. Both open field and, to some extent, greenhouse farming are leaching excess fertilizer into our waterways. We know how things could be improved, but this requires global, cross-border decision-making and political will. We believe that as knowledge of climate change increases, fertilizer production and use will be more closely monitored.

HERE IN FINLAND, WE'RE INTO DEFENCE.

Biological control in our facility involves our in-house predator, Macrolopus, swiftly capturing and consuming the pest Tuta. We have a whole zoo filled with guardian animals to make sure our tomatoes are beautiful and red, that they don't fall into the mouths of pest thieves on the way and that we don't have any waste. And our police insects are not the only form of flying biological control, we also use a variety of beneficial bacteria, fungal growths and even traps. Our pollination is mostly taken care of by our own army of bumblebees. But when, due to lack of sunlight in the pitch-black darkness, the bumblebees are too drowsy to move (you know the feeling!), they are assisted by pollination robots. This method is a pilot project of Agrifutura — and completely unique in the world. We call it the eighth wonder of the world... or at least of the eighth wonder of our hometown of Pori. Our biologists are constantly developing better and more efficient methods so that our plants can do better and better. And that's good.



WHAT WE ALREADY DO WELL?

- NAMSila uses only biological control methods, insects, useful bacteria, fungal growths, and parasites.
- NAMSila is pollinated during the summer by thousands of bumblebees. In the winter, pollinator robots in the greenhouse help the bumblebees to ensure that flowers are pollinated over a large area.

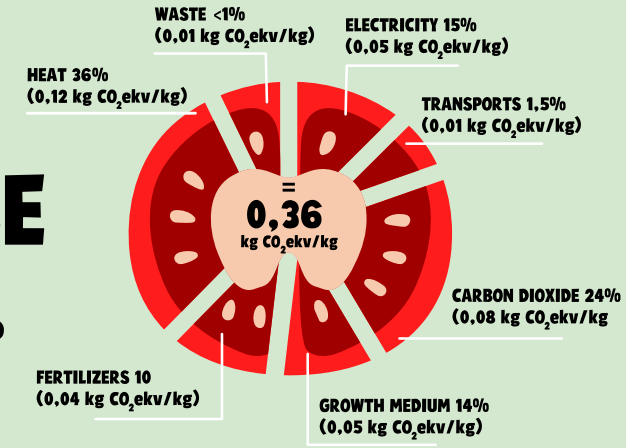
WHAT WE COULD STILL IMPROVE?

- Our understanding of biological control is constantly evolving. We are constantly discovering new natural interactions and learning how to use them in food production. We want to be one of the pioneers in our field.
- We want to use robotics, machine vision and technology alongside biological organisms and seek to replace them in the future. Why? Shifting the circadian rhythm, electricity prices->lighting and wintertime (cold and dark).

WHAT WE THINK ABOUT BIOLOGICAL CONTROL?

- To this day, nature has been able to provide enough food for a growing population. However, with climate change, we have exceeded the limits of our growth. At NAMSila, we believe that we can create a finite and closed ecosystem where we can produce clean and natural food in an ecologically sustainable way. Such farming does not involve toxins or chemical, unnatural substances or compounds. We are committed to being a part of a global agriculture movement that seeks new, ecologically sustainable ways to increase food production.

ONE MIGHT THINK THAT GROWING IN THE COLD AND DARK WOULD CAUSE WORSE EMISSIONS.



The carbon footprint of NAMSila is 0.36 CO_2e. This scientific figure simply means that we release almost seven times less carbon dioxide and methane into the air than our competitors do on average. We're pretty proud of our figure. On the other hand, we always knew it was going to be like this. From the very beginning of NAMSila we have thought about growing in a way that minimizes greenhouse emissions. But it still came as a pleasant surprise that the calculations of the Natural Resources Institute Finland (Luke) showed such a big difference – even when compared to tomatoes grown in warm climates abroad. This result only proves that we, amidst all the debate, are capable of acting responsibly and also leading the development of responsible food worldwide.

Read more about the Natural Resources Institute's calculations

WHAT WE ALREADY DO WELL?

- The greenhouse technology we use is the best available technology that can be reasonably achieved to improve production efficiency and achieve high environmental standards.
- The technology has been chosen to minimize the environmental burden.
- We use semi-sealed technology, which means that heat and energy consumption is lower than in traditional greenhouses. This requires a wider range of skills from the staff, such as analyzing weather conditions and their impact on greenhouse conditions.
- Part of the greenhouse has hybrid lighting, i.e. a combination of LED and HPS lamps. This reduces electricity consumption, but the effect of the lighting on the tomatoes remains unchanged.
- The greenhouse is heated by district heating, which is produced with renewable wood chips right next to us. No fossil fuels are needed for heating at all.
- Bio-waste is recycled by composting.
- We strive to use farming technology solutions with the lowest possible environmental burden. We are constantly looking for new solutions and innovations to reduce the environmental burden, including for plastics.
- We calculated the carbon footprint of production at the end of 2020 and will update it as production volumes or patterns change.

WHAT WE COULD STILL IMPROVE?

- We will follow developments in greenhouse technology and related energy-intensive solutions to improve our own operations.
- We can use these innovations in the greenhouses of the future or replace the solutions we use today with more advanced ones.
- Some commodities, such as seedling supporters and clips, could already be made from biodegradable plastics, but their quality is still too poor and their cost too high. We will move to plastic-free or biodegradable solutions when they are available.

HAVE YOUR CONSIDERED THAT YOUR CAR MAY RUN ON TOMATOES, LIKE YOU?

NAMSila seedlings are replaced once a year. When the new seedlings arrive, the wilted tomato plants from the previous season are removed from the greenhouse, along with the growing media, the bumblebees, mealworms, microbes, and fungi that have lived a good life in the greenhouse. They've also all meticulously done their work in the greenhouse during the season. All the organic matter is either processed into compost or taken to a biogas plant, where it can be used as fuel for cars. Nothing goes to waste at NAMSila.

All organic waste from NAMSila is collected, sorted and either turned into biogas or composted, depending on what works best.

WHAT WE ALREADY DO WELL?

- All organic waste from NAMSila is collected, sorted and either turned into biogas or composted, depending on what works best.
- We have the means and channels to reduce organic waste by recovering defective edible tomatoes and preserving them by fermenting and using them for tomato-based foods.

WHAT WE COULD STILL IMPROVE?

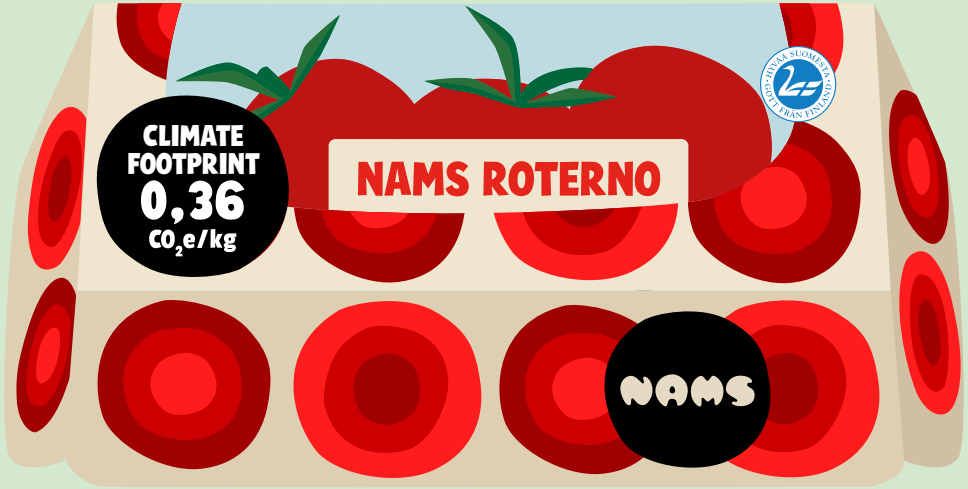
- There is a lot of untapped potential in the use of biowaste from greenhouses, which we are exploring.
- Biowaste can be used to make organic fertilizers, building materials and to separate various chemicals, compounds and enzymes that can be used in industry and as fuels.
- Increasing the volume of fermented, tomato-based foods.

WHAT WE THINK ABOUT BIO-WASTE?

- Preserved biowaste could act as a permanent carbon store, thus making food production a carbon sink. We would like to find Finnish partners with whom we could work together to develop solutions that work.

NAMS ARE PACKED IN A BEAUTIFUL BOX, SAFE FROM VEGGIE VETTERS' FINGERS.

The NAMS are picked only when ripe and are packed in a 100% compostable, sealed box with a window made of wood-based raw material. The box has many uses. Firstly, it ensures that you are the first to touch the NAMS tomatoes with your bare hands. In addition, the packaging protects the tomatoes from bumps in transit and reduces waste. The box is made from 100% degradable cardboard and is made to look beautiful so you can keep your tomatoes where they belong. That is, on the table at room temperature.



WHAT ARE WE ALREADY DOING WELL?

- All our packaging is 100% biodegradable and recyclable.
- Even the window is made from a recyclable, wood-based material.
- We source our packaging from a Finnish supplier, and it is made from FSC-certified wood.
- Loss of unpacked vegetables is up to 20–30%, the loss of packaged NAMS only around 2–3%.
- We use only fully environmentally friendly inks in our boxes.

WHAT MORE CAN WE DO TO IMPROVE?

- Efficiency and automation of the packaging line. Changes through which higher volumes can be packed with the same equipment. Potential use of machine vision.

WHAT WE THINK ABOUT THE PACKAGING INDUSTRY?

- The packaging industry is quite a complex web, with raw materials being produced in huge plants and a production chain that is not the most conducive to developing responsible innovations. For our part, we are putting pressure on the Finnish packaging industry to one day have the most transparent packaging in the entire world.

IT IS SIMPLY INSANE TO IMPORT WATER FROM SPAIN TO FINLAND.

Seems reasonably logical, doesn't it? One of the reasons for starting NAMSila was that our founder Sebu believed that it was possible to produce locally grown, summer-flavored tomatoes in Finland – all year round, and still in an ecological way. When 94% of the weight of a tomato is liquid, it goes without saying that there is no point in transporting it from the other side of Europe.

Growing tomatoes requires not only transporting the fruit itself, but also fertilizers, growing media, carbon dioxide, seedlings, workers, and all sorts of things, big and small, associated with running a greenhouse. So, our idea is to slowly build a growing infrastructure where the bits and pieces are delivered to our greenhouse as ecologically as possible, as close as possible.

WHAT ARE WE ALREADY DOING WELL?

- We make use of the trade's own distribution systems.
- We use local subcontractors wherever possible

WHAT MORE COULD WE DO TO IMPROVE?

- We will move to electric vehicles and transport as soon as our partners agree and it's economically viable
- Together with our partners, we optimize our transport systems.

WHAT DO WE THINK ABOUT TRANSPORT?

- The transition from fossil fuels to renewable energy is inevitable, and the sooner it happens, the better for Finnish agriculture. If we can make this transition faster than larger agricultural markets, it will not only benefit ecological Finnish agricultural products but also offer our developed services and technologies to a burgeoning export market with growing demand and higher margins.

OUR HOMIES, POSSE, GANG AND БАНДА.

(gang in Ukrainian)

At NAMSila, we have a wide range of specialists working for us, from Macrolopus to biology students. Each with their own carefully considered mission, this motley crew is united by a desire for the sustainable development of tomato production. To make sure we can not only produce summer-flavored tomatoes that taste good, but also to increase tax revenue, capital, and create jobs in Finland. Sustainable food production is vital for our country for many reasons. For example, because we want to be confident that we'll be able to feed our entire population in these latitudes, even in more difficult times. With climate change, we have the opportunity to be involved in developing new ways to produce more food without causing more harm to our planet. This in turn offers Finnish agriculture the opportunity to become one of the world's leading exporters of agricultural biology and technology.

WHAT ARE WE ALREADY DOING WELL?

- We hire a motivated workforce regardless of gender or language.
- We don't just follow laws and regulations; we help develop them further to closer align with our values and beliefs.
- Our employees enjoy good benefits, services and working conditions.
- We cause minimal harm to our environment and make efficient use of all the side streams from our operations.
- We source all our products and services as locally as possible; from Pori, Satakunta or Finland, and only as a last resort from abroad.
- Our tax revenue will flow to Pori and Finland.

WHAT MORE COULD WE DO TO IMPROVE?

- Working with our partners to develop transparency in the value chain.
- Finding domestic partners for all aspects of our operations
- To evolve, grow and produce more with less, thus minimizing the number of imported tomatoes.
- To increase the processing rate and thus increase added value for Finland.
- Investing in exports and allowing trade surpluses.
- Provide opportunities for domestic investors.

WHAT DO WE THINK ABOUT SOCIAL RESPONSIBILITY?

- By focusing on the values, we have internalized in our business, we are the best at bearing our social responsibility. Then, in everything positive, we are giving, not taking away. We produce resource-wise responsible food, valuing the environment, society, and the individual.

THERE ARE AS MANY CERTIFICATIONS IN OUR INDUSTRY AS THERE ARE HOCKEY FANS IN PORI.

Finnish and European horticultural legislation is the best in the world, but regulation often has the disadvantage of slowing down development. That's why it's important for us to be at the forefront of developing sustainable agriculture. And we believe that testing and analyzing our operations against various existing industry-accepted standards will certainly not make us worse at what we do. That's why we have undergone audits and inspections against the industry standards. The most important of these is by far the GLOBALG.A.P. certification for international primary production, which takes a stand on food safety, responsibility, and traceability of production. GRASP, an additional part of the certificate, was successfully audited from the beginning of 2023 and takes a stand on employee welfare, training, and social responsibility. GLOBALG.A.P. is audited annually against a huge 270-point list of requirements. The NAMS greenhouse and its operations were last audited in November 2023, and we met all the requirements of the Major Must certificate. (P.S. You guessed it. Pori is a hockey-crazy town. Our team's color is tomato red, what else.)

GLOBALG.A.P.

Luke
NATURAL RESOURCES INSTITUTE FINLAND

HYVÄÄ SUOMESTA · GOTT FRÅN FINLAND

kestävästi kotimainen

PAREMPI VALINTA · BÄTTRE VAL

WHAT WE ALREADY DO WELL?

- In 2021, we were awarded the internationally renowned GlobalG.A.P.-certificate.
- The certificate indicates that our activities, our products and all the services and materials we use, are compliant with laws and regulations. As well as safe for and respectful / appreciative towards all parties involved. All aspects of our activities are environmentally friendly and sustainable development.
- The certificate acts as a sensor for us to verify successes and address areas for improvement. For us, certification is not an end. We are driven by a genuine desire to improve.
- The certificate supplement GRASP describes how well our operations represent ethical working conditions and social responsibility.

WHAT WE COULD STILL IMPROVE?

- We are aware that no single certificate will make you happy, but that the operator must carry be responsible for their own actions. The certificate also does not consider all possible sustainability, transparency, or environmental values.
- Our own internal quality manual will be based on the GlobalG.A.P. certificate, but we will extend it to include tried and tested activities, both in daily routines and in the on environmental responsibility.
- We can also meet the requirements of the certificate even more effectively by using the company's internal note-taking systems.

UNLIKE THIS DOCUMENT, THE WORK NEVER ENDS...

Growing a tomato is a special job in the sense that it may seem simple at first bite, but in the end it's anything but. In fact, it's pretty damn complicated and difficult. Especially when you do it professionally, like we do at NAMSila, the difficulty factor increases exponentially. When the intention is to produce 3.6 million kilos of summer-flavored tomatoes a year from 4.5 hectares of land, in all weather conditions, come hell or high water. And deliver them to people all over Finland. And to do all this with as little damage to the environment and our collective well-being as possible. As good as possible, in quantity and with a low environmental impact is not an easy equation. While we cannot change the whole world, we can be transparent in our own operations and improve our own actions all the time. That's why this work will never end. In this report, we have collected the most important elements of our sustainability work so far. We also added a small sustainability statement to our product boxes, probably as the first food producer in Finland to do so. The content of this report and our sustainability communication will be updated as NAMSila's responsible food production develops. If you have ideas, thoughts, or topics for discussion on how we could improve our processes, please don't be silent. Just send us a message info@agrifutura.fi or join the discussion on social media (IG, FB).

CLIMATE FOOTPRINT 0,36 CO_2e/kg

SUSTAINABILITY STATEMENT

Climate footprint: 0,36 Co2 e/kg

It's difficult language that practically means that we release far less carbon dioxide into the air than our friends producing imported tomatoes, for example.

Water footprint: 0,36 Co2 e/kg

This is a piece of cake for Finnish farmers. Because it always rains here. And in NAMSila we also collect and recycle everything that falls from the sky. So, our footprint is insignificant.

Packaging :

It's all 100% biodegradable and recyclable. Even the transparent window is wood fiber. From the earth you were born, to the earth you shall return.

Chemicals:

These are not used in NAMSila. Even the pests are dealt with by our army of predatory mites using military-technical measures.

Social responsibility:

We are proud to be part of the future of Finnish agriculture. We're an AGRITECH company that contributes to the Finnish economy by paying taxes, providing social security contributions (such as pension insurance contributions), and creating new jobs in Finland.