

# Growing UP

Europe's largest vertical farm follows a dream

By Phyllis Coulter

Iowa Farmer Today

**T**AASTRUP, Denmark — Anders Riemann had one of those life-defining moments that changed everything for him. It led the successful investment banker to quit his job to create the first industrial-scale vertical farm in Europe.

In his mid-40s, he decided he wanted to do something with a bigger impact than just for himself.

"I wouldn't be satisfied," he said, if he didn't do more for society.

The next day he delved into 20 hours of research on how to produce food more efficiently using LED lighting and robots indoors. After another year of research and learning skills, he flew to New York to consult with experts and see if his dream was viable.

He wondered, "If vertical farming was such a good idea to help tackle the world's quest of feeding 10 billion people in 2050, why weren't more people doing it?" Japan and the U.S. have developed some vertical farms.

Preparation was essential to him.

"Win before you begin," he said of his approach, while standing in front of a giant window revealing that his vision works.

After four years and using all his savings and the help of 50 shareholders, he opened the beginnings of Nordic Harvest in 2020 in a new building about 10 miles from Denmark's capital



Anders Riemann stands in front of produce growing in Nordic Harvest, the vertical farming operation he founded near Copenhagen, Denmark.

of Copenhagen, where there is plenty of demand for his produce.

The startup required 9 million Euros.

"I couldn't start small," he said. He needed to invest in a workable proof of concept which is up and running now and will be at full capacity in five years.

When complete, the indoor vertical farm will grow as much as 600 acres of farmland, he said. Some of the marginal land being farmed now could be returned to forest, he said.

Denmark is an ideal location both because of demand for the products and because growing outdoors only allows one crop per season, unlike warmer climates.

Four of the big investors are from farm families spanning 11 to 13 generations.

"They think about the land for their children and grandchildren," Riemann said, and adopt technology to preserve the land for the future.

His system also reduces food waste. Traditionally 13 to 20% of produce delivered to retailers is wasted. His system cut that down to 3.6%.

While his lettuce and other

greens are not considered organic in Denmark under EU organic laws because they are not grown in soil, consumers are willing to pay organic prices for quality and high nutrient content.

During the pandemic, people became more aware of clean food and food security, he said.

"We need to start developing technology today to give us a secure food supply now, 10, 20 and 30 years from now," Riemann said.

With work underway, by next year Nordic Harvest will be using renewable energy to power the operation.

While his products today focus on more than a dozen varieties of greens, eventually an assortment of fruit and vegetables can be grown including tomatoes, strawberries and blueberries, he said.

Meanwhile, Europe has been slow to embrace vertical farming, he said. There are no subsidies for it as there are for traditional farms, he said. After World War II, government subsidies were created "to make sure Europe could produce enough food for our population," he said.

Riemann said he doesn't need

any subsidies to produce lettuce and kale, but might to research and develop the more labor-intensive systems to grow potatoes.

Among the difficulties of starting a vertical farm, is the capital intensive nature of it, he said. The facilities must match the cleanliness and precision of pharmaceutical production. And it takes 600 documents to get things under way.

While cracking the code for vertical farming is difficult, "Traditional companies are starting to support it," he said. Companies contribute to bright ideas for lighting, water treatment or robot technology.

Over the next five years, the plan is to expand further in Denmark and with two vertical farms each in Norway, Sweden and Finland and then one in northern Germany.

"It's a dream job for me," Riemann said.

Likewise, he have no trouble finding employees. He gets unsolicited job applications every day from people who want to work here.

Riemann's advice to others with big dreams of making a difference: "You can do so much more than you think."

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