



Arable farmer Thomas Pollema:

“Now that I know the soil variation in my field, I see a lot of opportunities to further increase my yield.”

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Partnership Pollema from Oude Leije

- Oude Leije (North of the Netherlands)
- Arable farming & poultry farm
- Grows: potatoes, winter wheat and lets grassland
- Soil type: clay
- Business size: 120 hectares including rented grassland
- Plot size pilot: 6.5 hectares

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Need:

- More insight into soil variation within the field
- Possibilities for increasing yield on his land

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Solution:

- 33 soil samples taken with a quad on a potato field of more than six hectares

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Results:

- Insight into the variation within the field
- Detailed information about on the spot soil needs

The farm of Thomas Pollema is located in Oude Leije, a small village in the North of the Netherlands. Thomas runs the farm there together with his parents, brothers and sister. On his land he grows 70 hectares of potatoes, 25 hectares of winter wheat and he rents out 25 hectares of grassland. Thomas participated in the pilot project of HLB and George Pars Graanhandel B.V. (Pars). He had a number of soil samples taken on one of his potato fields. These were analysed in the Lab-in-a-Box (LiAB), the new sensor laboratory of SoilCares (now part of AgroCares). The lab enables fast and cost effective soil analyses. With this new technology the soil variation of his field was mapped. Now that he knows more about the soil diversity of his land, he sees vast opportunities to increase his yield and further improve the quality of his crops.

Why Thomas Pollema participated in this pilot project

When Thomas Pollema received the invitation from Pars Granen & HLB for this pilot project, he was immediately interested. “I already knew there is a lot of soil variation on my fields. With this new technology a large number of soil samples can be taken quickly. This enables me to get a very detailed idea of the soil variation on my field. With this information I can improve my soil where needed and increase my yields even further. This is the reason I participated in this pilot”, says arable farmer Thomas Pollema.

Soil analysis based on only averages is useless

Thomas Pollema: “It is legally required to carry out a soil survey once every four years with a traditional wet chemistry lab. However we hardly used the results that came out of this survey because it only gave us insights into the averages of our fields. I knew there was a lot of soil variation, so they were useless for me. This pilot project was therefore a great opportunity to learn more about my fields.”

Extensive advice from HLB

HLB collected 33 soil samples with a quad bike on one of his potato fields of 6,5 hectares. They were then analysed in the SoilCares sensor lab. Thomas Pollema: "After the soil samples were collected, the results were discussed in our pilot group a few weeks later. HLB also discussed their recommendation report with the data from the sensor lab with us separately. The results on our data card showed that there was a lot of differentiation on my field. I had already expected this, but now I know exactly where these spots can be found and I also know which nutrients are needed on those places."

Monster		Adviesgift (kg per ha)			zlw-advies	Analyseresultaat		
		P ₂ O ₅	K ₂ O	MgO		pH	OS %	Afslib. %
33072	1	49	200	0	0	6,9	1,7	36
33073	2	45	146	0	10174	6,4	1,8	42
33074	3	58	184	0	3699	6,5	1,9	35
33075	4	80	304	0	1877	6,7	1,9	36
33076	5	117	159	0	3648	6,7	1,7	40
33077	6	54	227	0	2794	6,6	1,8	34
33078	7	59	224	0	2538	6,5	1,7	32
33079	8	83	184	0	1867	6,7	1,8	35
33080	9	74	233	0	0	7,0	1,9	37
33081	10	58	215	0	2777	6,5	1,7	35
33082	11	85	203	0	0	7,1	1,8	35
33083	12	86	217	0	0	7,1	1,7	37
33084	13	70	229	0	0	7,2	1,7	33
33085	14	91	130	9	0	7,4	1,7	39
33086	15	87	142	18	0	7,4	2,0	39
33087	16	59	181	3	0	7,2	1,8	36
33088	17	48	190	28	0	7,3	1,8	37
33089	18	65	169	77	0	7,2	1,8	38
33090	19	75	161	63	0	7,3	2,0	40
33091	20	67	236	0	0	7,1	1,8	34
Variatie		45-117	130-304	0-77	0-10174	6,4-7,4	1,7-2	32-42
Gemiddelde		70	193	0	0	6,9	1,8	37

Example data card

A higher yield per hectare

Thomas Pollema: "On some spots in the field there was a very low Potassium level for example. When we would adapt our fertilisation to eliminate these weak Potassium spots this could result in a substantial increase in yield per hectare. We are now calculating whether it is actually profitable to adapt our fertiliser strategy for potassium here."

Save on fertiliser and improve crop quality

Thomas Pollema sees more advantages of this new technology for soil analysis: "By improving the weak spots, we can increase our yield. That is the most important thing. But because we know the variation in our field, we can also use our potassium fertiliser much more efficiently. In the end we will save on fertilisers because we no longer add fertiliser on spots where they are not actually needed. If we use fertilisers on the weak spots and improve the soil, our crop quality will improve even further."

Bright future for precision agriculture in soil

Thomas Pollema foresees a bright future for this new precision farming technology for soil: "Now that I know exactly what the GPS location of these weak spots is, I can manually adapt the amount of fertiliser applied with my machines. With the latest machines this can even be done automatically and with minimal effort. I therefore expect that these precision farming applications will be used extensively in the future."

Soil is our most important production tool

"Of all the new precision farming applications out there, I expect most from this technology. Soil is our most important production tool; everything starts there. So getting and keeping it in a perfect condition has the highest priority for us. This solution offers us that possibility so I expect this will become a very successful service", says Thomas Pollema.



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