



Report of Meru Union Board and Management Trade Mission to The Netherlands

5th – 12th November 2017

The program was organized by
SNV Kenya KMDP, Meru Dairy Farmers Cooperative Union and Dairy Training Centre



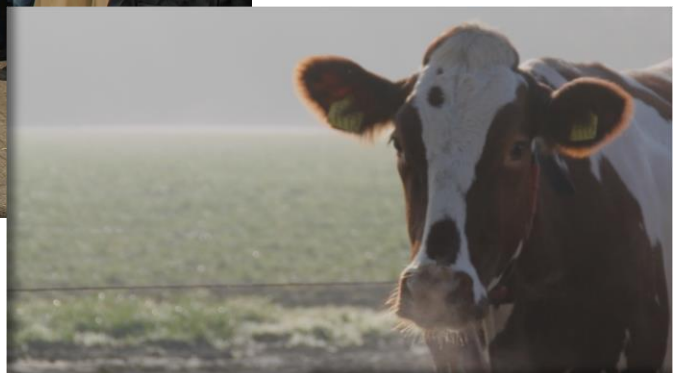
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INTRODUCTION

This report captures impressions of the Trade Mission of Meru Union Officials to the Netherlands from 5–12 November 2017. The Mission was organized by SNV Kenya – Kenyan Market-led Dairy Programme (KMDP) and facilitated in the Netherlands by Dairy Training Centre Leeuwarden (Ms Marina Nell and Mr Willem van der Bent). Others who facilitated were Mr Tseard van der Kooi en Mr Frans Ettema from PUM, and of course the companies visited in the Netherlands that showed great hospitality

Participants Meru Union	Kenneth Gitonga, Stephen Mwenda, John Mutua, Simon Ikiara, Eustace Kamunde, Rachel Nkatha, Beatrice Kiogora, Franklin Kithinji, Edith Mwirigi, Abraham Imathiu, John Kinyua, Mbaabu Salesio, Phineas Gitonga
Participants SNV	Tijs van Balen, Judy Kithinji



VAN DEN HEUVEL

Van den Heuvel Dairy and Food Equipment is a supplier of high quality dairymachinery and processing equipment for the production and storage of dairy products (milk, cheese, butter, yogurt, curds, Kefir) and liquid food stuffs).

Our hosts were Ms Bertha van den Heuvel and Mr Nico Maat the Managing Director. The founder was also present. We had an initial presentation about the Company, a tour of their ware house, a visit to their cheese factory and later a visit to a yogurt plant with equipment from Van den Heuvel.

- a) The presentation highlighted the ownership of the company and when it was formed, the various turnkey projects they have delivered in various parts of the world. They have capacity to deliver in any part of the world.
- b) During the tour of the warehouse we were able to see various equipment both second hand and new. They have bought equipment from factories that have closed down and refurbish them for sale. For both the second hand and new equipment, they provide same warranties of 1 year. They do not limit buying of second hand equipment to only Van Der Heuvel equipment and therefore it is possible to find equipment from other companies.
- c) Tour of the cheese factory. The factory processes 5,000 litres of milk per day and runs 3 days a week. The milk comes from their dairy farm. What amazed the group most was that there was only 1 employee who works in the factory and collects milk from the farm. The sales of the cheese are done through a cooperative of farm processors.
- d) Den Eelder Zuivel (farm dairy processor).The factory is family owned and has been running since 1983. They have 500 milking cows and process milk from their own cows and neighboring farmers, approximately 40,000 litres per day. They make fresh milk, yogurt and butter milk. Of interest to see here was the processing equipment supplied by Van Den Heuvel.
- e) Diederik voor de Poorte held a brief presentation Agripoort is specialized in milking parlor related products and is active in Kenya through Dejirene, Eldoret.

Questions and Answers

Q. Meru had sent representatives the previous year to the VDH, what was the outcome?

A. VDH had developed a proposal then which Nico printed and gave to the CEO. It seems a lot had been done including estimate budgets but Meru did not make a follow up

Q. What is the warranty for second hand equipment

A. Van Den Heuvel gives 1 year warranty for all

equipment whether new or second hand

Nico will visit Meru in the week of 20th November to further discuss with Meru Union on their needs and the equipment they need. Based on this Nico will provide a technical and financial proposal.

VAN DEN HEUVEL



DEN EELDER ZUIVEL



MUELLER TANKS

Mueller Tanks RVS cooling tanks for the food industry with main focus on milk cooling tanks. Mueller has been active for over 70 years and has supplied tanks to over 50 countries worldwide

Our hosts were Jos ten Horn and Dirk Pieter Wouda. The latter is the International Sales Manager - Middle East, Africa & Southern Europe. We first visited a farm using a tank from Mueller and there-after to Mueller offices in Wesepe for a presentation and a tour of their warehouse.

a) Farm visit. The farm has over 100 milking cows and has installed a 5,000 litres cooling tank from Mueller. Milk is collected every 2 days by the processing company. They use a milking robot with milk going directly to the cooling tank. Mueller is in charge of servicing the equipment and a technician will be on a farm within 30 minutes after a farmer has reported a break down. Mueller is also able to provide a tank for the farmer to use while theirs is under maintenance or repair.

b) Presentation and warehouse visit at Mueller. The presentation was made by Jos. He explained the services of Mueller and the projects they have been involved in in over 50 countries. He explained that they sell both new and second hand tanks. They have sold 5 tanks to NKCC in Eldoret. They currently do not have local presence in Kenya but are working on a partnership deal with Euro dairy to be their local dealer and be in charge of maintenance and repairs. In Uganda they have been in partnership with a local company – Indigo and have installed 160 tanks.

Questions and Answers

Q. Meru asked about the kind of tanks they sell considering in Meru needs tanks to be used a collection centers where milk comes in large quantities within a short period of time and needs to be cooled fast

A. Mueller first assesses every individual situation and customizes a tank to fit that situation. They use different kinds of compressors to meet specific needs and so not sell tanks without first assessing the particular needs of the client

Q. How do they deal with regular power outages as in the case in Kenya

A. The tank owners always install stand by generators to take care of the power outages

Meru Union is interested in buying 2 tanks from Mueller and agreed that Jos or Pieter would visit them before the end of the year to assess their needs and provide them with a technical proposal and quotation.

MUELLER TANKS



MUELLER TANKS



GEBR. KNOLL

Gebr. Knoll is a family business with more than 50 years of knowledge and experience in agricultural and garden machinery business. They are the official dealers of Massey Ferguson and offer a wide range of tractors and machinery.

Our host at Gebr Knoll was Jarold Knoll. The main interest for the team was the Agronic Silage Baler. We visited the office and saw the baliers ready for sale. One to be shipped to Kenya (FIT Ltd). We later went to a nearby farm where the baler was demonstrated. The baler is quite efficient and allows for sale of wrapped or baled silages or contracting services to make bales for 3rd parties. The price of the baler is approx. KES 10 Million.

Questions and Answers

Q. Is there a machine that can chop and bale at the same time

A. Currently there isn't such a machine

The team was not keen on investing in this technology due to the high investment costs. However an investor who would sell the bales would likely find a good market in Meru. They discussed the issue of working with the County Government on this or larger scale farmers who can grow maize on behalf of the dairy farmers.



GEBR. KNOLL



CRV

CRV is a cooperative owned by the Dutch cooperative CR Delta and the Flemish cooperative VRV. About 27,000 dairy and beef farmers in the Netherlands and Flanders are members of CRV. The core business of CRV is cattle improvement which includes breeding, collection and processing of cattle data, herd book activities, on farm AI services, management products and publishing magazines

Our host from CRV was Linda Hoekstra. We had four visits – to 3 farms with cross bred cattle (Fleckvieh, Brown Swiss and Jersey). After the first farm visit we went to ILC, the CRV lab where semen is processed after harvesting.

a. Fleckvieh farm This farmer switched to crossbreeding with Fleckvieh many years ago because he needed animals with good fertility and more hardiness than Holstein to survive in the organic farming system. He has about 100 animals with about 65 in milk. Most of his animals are 75% Fleckvieh and 25% Holstein. The farmer's average production per cow per day was 27 litres. At this farm we found a CRV inseminator who had come to serve one of the cows.

Questions and Answers

Q. How long does it take for the inseminator to come when called

A. If the farmer calls in the morning, the inseminator comes in the evening, if he call in the evening, the inseminator comes the following morning

Q. What is the average conception rate

A. for this particular inseminator, his average was 79%.

Q. Why did the farmer choose Fleckvieh?

A. The hardiness of the animals especially since the farmer was doing organic dairy farmers where he cannot use hormones or antibiotics

Q. what is his calving interval

A. He has a calving interval of 375 days, the average in the Netherlands is 415 days

b. ILC Deventer We visited the ILC lab where semen from CRVs bull station is analyzed and processed for sale. CRVs follows a very strict hygiene and handling of all semen that arrives the station. They have 2 bull stations and semen from the 2 stations is handled separately. The semen is analyzed for mortality at the station and only the semen that has 75% mortality is accepted. The analysis was practically demonstrated with semen sample which came to 79% mortality. The semen is then processed and taken for packaging into semen straws that are very clearly labelled with color and number codes. They are then stored and sent to their agents.

Questions and Answers

Q. Does CRV recall semen once it goes out to check on viability once out

CRV and Meru Union have been discussing to explore a partnership. A CRV AI-expert will visit Meru Union from 19-25 November to assess the performance of Meru Unions AI-services and the need for training and other support

	<p>A. They only do so for semen that is used in the Netherlands, once shipped out of the country , they cannot not recall due to restriction on live products</p>	
	<p>c. Brown Swiss Farm. This farmer switched to crossbreeding with Brown Swiss not long ago. He has a mix on his farm of Red Holstein, Black Holstein and Brown Swiss crossbred cows. He had many leg problems with the Holstein and Brown Swiss are known for having very good legs. He did not notice any effect on the milk production when comparing the crossbred with the purebred. His average production is 32 kgs per cow per day and has an average calving interval of 405 days. The farm has a total of 170 cows with 104 in milk.</p> <p>d. Jersey Farm. Due to EU phosphate reduction legislation this farmer needed to reduce his number of cows from 120 milking cows in January 2017 to only 64 milking cows today. He is crossbreeding with USA Jersey. USA Jersey is different from New Zealand Jersey. USA Jersey is more focused on milk production while New Zealand Jersey is more suitable for grazing systems. He decided to start crossbreeding with Jersey because of fertility issues in Holstein and weaker animals in Holstein. He got this idea of crossbreeding with Jersey from a trip to the USA/Canada a few years ago. He uses in the current young stock 100% Jersey sexed semen. Next generation will be 100% Holstein and then Jersey again. In this way he gets the best of both worlds. He maintains his high level of production while reducing the costs on his farm.</p>	



CRV



DENKAVIT

Denkavit is a specialist in feed for young stock. It has over 60 years of knowledge and experience. They make feeds for calves, piglets and lambs

Our hosts at Denkavit were Henk Sonderen and Marijn van Brakel. We started with a presentation on the company and the support they provide to farmers who are their members. We later visited the veal farm and the pig farm of Denkavit.

a. The presentation. The emphasis of the presentation was on the care of young stock/calf rearing. This is a big issue with dairy farmers in Meru where calves are neglected and sometimes take up to 3 years before first insemination. The presentation emphasized on the importance of feeding colostrum immediately after a calf is born to ensure the intake of antibodies by the young animals. It was pointed out that amount of antibodies in the colostrum decreases sharply after the first milking so it is also recommended that colostrum from the first milking be stored/frozen to be given to the calf. The correct way of feeding milk/milk replacer to the calves was also emphasized. Most farmers feed from a container on the floor while the correct way should mimic how a calf sucks milk from its mother. This is to allow the milk to go directly to the abomasum and not to the rumen which causes the calf to have diarrhea as the milk is not well digested. The feeding of calf pellets was also discussed during the presentation. After the presentation we went to the lab where quality checks on the raw materials and on the finished product. At the lab they also test for hemoglobin levels in the blood of the veal calves to make sure the meat when sold is white which is preferred and fetches a higher price in the market. We then made a tour of the factory from the reception of raw materials to the dispatch of the finished product

Question and Answers

Q. How much milk should a calf drink immediately after birth?

A. As much as it can but on average 3 litres

Q. How long can Frozen colostrum be kept?

A. It can stay even up to one year if well kept. However, once thawed, it should not be frozen again

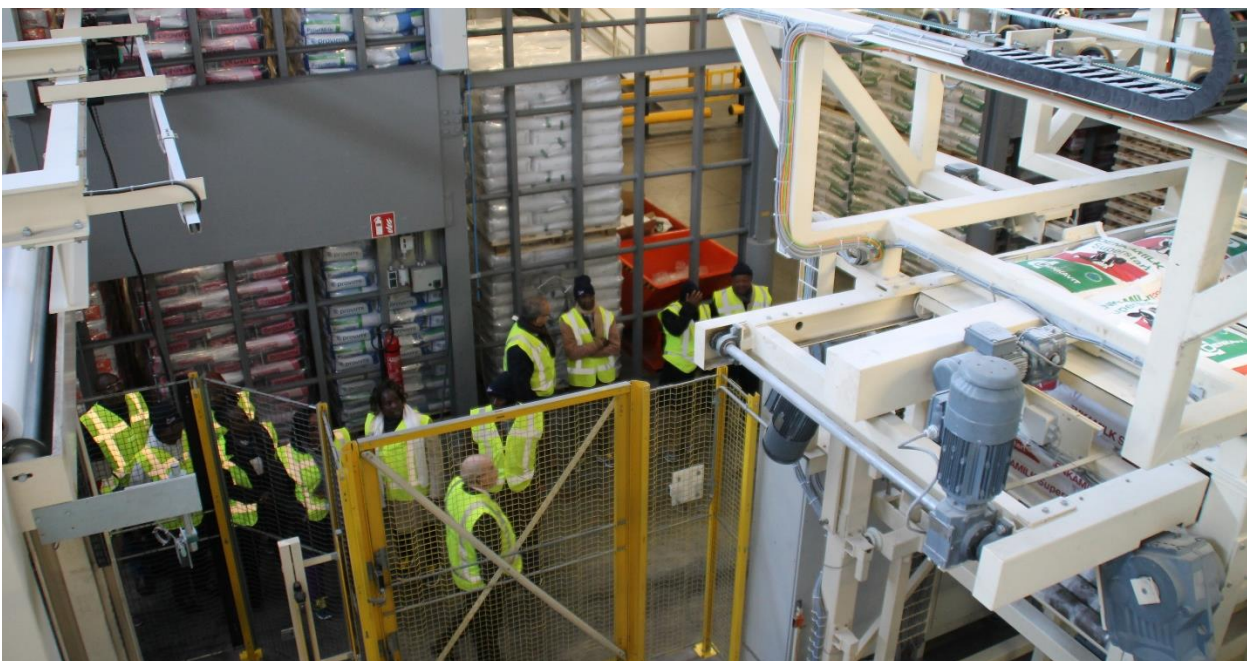
Q. When should a calf be given pellets

A. Three days after birth to allow to rumen development

There is a market for milk replacer in Kenya and Meru. Henk mentioned that he was in discussion with Kenyan Business people willing to sell their production in Kenya

b. The veal farm. The farm is run by Denkavit and they buy young bulls for fattening. The bulls are mainly fed with 50% milk replacer Their main market for the veal is Italy.

c. The pig farm. Denkavit also rear pigs for sale of port. The pigs are fattened for sale in the local market and also for export.



DENKAVIT



FOR FARMERS

For Farmers is an international company that offers total feed solutions for conventional and organic livestock farming

The focus of the presentation at for farmers was on forages for animal feed. The presentation looked mainly at grass silage making (English Rye) that is common in the Netherlands. The presentation highlighted the nutritional value of different cuts of grass during the year. Meru farmers' main fodder is Napier grass and fodder maize so the presentation did not generate a lot of discussion.

We did not discuss any possibility for partnership with For Farmers

We did not make a tour of their factory as we felt it will be similar to Denkavit.



BLES DAIRIES and UNIFORM AGRICULTURE

Bles Dairies BV trades in live-stock, genetics and consultancy. It has an office in Eldoret (Bles Dairies East Africa Ltd)

Our host at Bles Dairies was Wytze Heida. We had a tour of the farm which has about 180 milking cows. We then had a presentation on Bles Dairies and Uniform Agri herd management software.

Bles Dairy farm tour and presentation. The farm has only 1 employee who is the manager of the farm and does insemination of the cows. They have milking robots, a cleaning robot and a robot to push feeds to the cows. In addition, a contractor comes every morning to give the daily ration to the cows. The average calving interval on the farm is about 420 days which is higher than the average in the Netherlands. However, their production in each lactation is quite high so while they try to improve on the calving interval they are not too worried about it. The presentation also highlighted the work of Bles Dairies in Kenya with the sale of Heifers in Eldoret.

Question and Answer

Q. What is the cost of the Heifers in Eldoret

A. 3000 Euro which comes to about Ksh. 375,000 at the current exchange rate

Q. Instead of importing Heifers, why not have embryo transfer

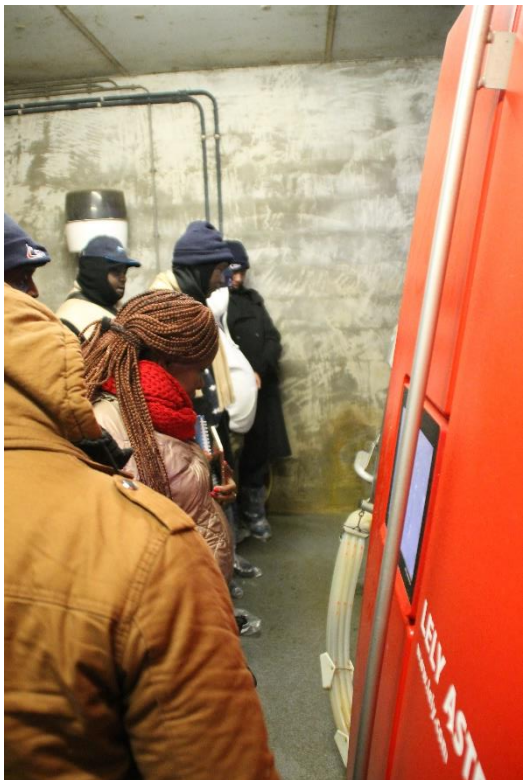
A. At the moment, many Kenyan farmers are not at a level where they can use embryo transfer, where the success rate even in the Netherlands is quite low (30%).

Uniform Agri Presentation (UA). The presentation highlighted the Stand Alone Management herd fertility management software that is used on farms in the Netherlands and abroad. UA is present in 76 countries worldwide and has over 10,000 subscribers/users. Bles Dairies was using the same software. UA has developed a simplified basics version and is piloting this in Kenya for medium scale farmers. The company also developed a software for processors for supply chain management in collaboration with FrieslandCampina for its programs in Vietnam and Indonesia. Also Tanga Fresh in Tanzania is interested in the software. The software is suitable to be used in the smallholder supply chain, especially when milk is sourced directly from farmers. We were informed of the local dealer in Kenya, Vilan Computers. It was however felt that the software used by FC may not suit Meru as the milk sourcing is different.

BLES DAIRIES



BLES DAIRIES



DAIRY TRAINING CENTRE

<p>Dairy Training Centre DTC has over 40 years experience conducting international training programs</p>	<p>Our Host at DTC was Johannes Brolsma, a trainer at DTC. We were hosted at the Dairy Academy in Oenkerk. We started with a presentation and then a tour of their training facility and the dairy farm.</p> <p>The presentation focused on their tailor training programs offered by DTC to both local and international students from one week to six months. The training is not conducted in a classroom but practically on their farm and mini processing facility. The training can be conducted in the Netherlands or in the clients' location. During the presentation, they also emphasized on their Franchise model where they can work with local institutions. They have three levels of franchises: Bronze, Silver, Gold. The Bronze partners have access to an open source data back and all training materials, the silver and Golden partners will be accredited by DTC, have tailor made materials, can use assessment tools, can register students on the platform and can organize part of their own platform. In addition to the above, Golden partners work together with DTC in the market, have 4 days visit by an expert from DTC per year and are the preferred partners for tenders.</p> <p>Practical training and farm tour. We were shown the mini processing plant where practical training is conducted and later toured the farm which has 180 milking cows and 142 young stock. Their average production per cow per day is 31 litres. The facility is now owned by Aware food group and DTC is renting it.</p>	<p>Meru Union was quite interested in the practical training. It wants to explore the possibility to work with DTC through the County Government, through an ATC or a local University</p>
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DAIRY TRAINING CENTRE



COW HOUSE

Cow House specializes in cow house design and interiors

Cow House made a presentation on the cow comfort concept. The main emphasis was on making sure the housing suits the cows' natural behavior of standing, sleeping and movement. Most cow houses do not consider the cows' natural behavior when it is outside the cow house, for example in pasture how does a cow behaves?



APPENDIX A: List of participants

Meru Union Trade Mission - Full names participants:

1. Kenneth Gitonga M’Ndegwa
2. Simon Kiruja M’Ikiara
3. Eustace Kimaru Kamunde
4. Rachael Nkatha Kinyua
5. Beatrice Karimi Kiogora
6. Frankline Kithinji Ndegwa
7. Edith Nkatha Mwirigi
8. Abraham Muriuki Imathiu
9. Phineas Gitonga Kinyua
10. John Kinyua Joseph
11. Mbaabu Salesio
12. Mwenda Stephen Mungania
13. John Mutua M’nthangi

14. Judith Mugure Kithinji (SNV staff)
15. Tijs van Balen (SNV staff)

APPENDIX B: Programme

Total overview program + adresses

Sunday 5th of November						
From	to	activity	Address		KM	time
14.45		Arrival at Schiphol				
16.00	16.45	Travel to hotel	Luchthaven Schiphol	Van der Valk Vianen Prins Bernhardstraat 75 4132 XE Vianen	53 km	40 min
16.45	18.00	Rest and refresh				
18.00	20.00	Dinner at hotel				

Monday 6th of November						
From	to	activity	From Address	To Address	KM	time
07.00	07.45	Breakfast & Check-out				
07.45	08.30	Travel to van den heuvel zuivel	Van der Valk Vianen Prins Bernhardstraat 75 4132 XE Vianen	Van den Heuvel Dairy & Food Equipment Graafdiijk Oost 23, 2973 XB Molenaarsgraaf	30 km	30 min
08.30	09.45	Tour cheese factory and production of Gouda cheese				
09.45	10.45	Introduction Van den Heuvel Dairy & food Equipement by Nico Maat				
10.45	10.55	Departure to Kweldamweg 1	Van den Heuvel Dairy & Food Equipment Graafdiijk Oost 23, 2973 XB Molenaarsgraaf	Kweldamweg 1, 2973 LA Molenaarsgraaf	2,5 km	4 min
10.55	11.45	See dairy processing equipement				
11.45	12.00	Departure for lunch	Kweldamweg 1, 2973 LA Molenaarsgraaf	Van den Heuvel Dairy & Food Equipment Graafdiijk Oost 23, 2973 XB Molenaarsgraaf	2,5 km	4 min
12.00	13.00	Lunch				
13.00	13.45	Departure to Den Eelder	Van den Heuvel Dairy & Food Equipment Graafdiijk Oost 23, 2973 XB Molenaarsgraaf	Den Eelder zuivel Molen Achterdijk 3, 5325 KL Well	50 km	45 min
13.45	16.00	Tour at Van Eelder; Dairy Farm that processes its own milk.				
16.00	17.30	Travel to hotel	Den Eelder zuivel Molen Achterdijk 3, 5325 KL Well	West Cord hotel Salland Raalte Zwolsestraat 63e, 8101 AB Raalte	136 km	1,5 u
17.30	18.30	Rest and refresh				
18.30		Dinner at Hotel				

Tuesday 7th of November

From	to	activity	From Address	To Address	KM	time
07.30	08.45	Breakfast & Check-out				
08.45	09.00	Travel to farm with Mueller tanks	West Cord hotel Salland Raalte Zwolsestraat 63e, 8101 AB Raalte	Wijnhout Wechterholt 12 8131 RC Wijhe	9 km	12 min
		Visit farm and see Mueller Tanks in operation				
		Travel to Mueller in Wesepe	Wijnhout Wechterholt 12 8131 RC Wijhe	Mueller Services Raalterweg 50 8124 AE Wesepe	12 km	20 min
		Visit Mueller Tanks Wesepe: Cooling tanks/ Equipment. Used cooling tanks and solar can cooler and Mueller company presentation.				
12.00	13.00	Lunch				
13.00	13.45	Travel to gebr. Knoll in Rouveen	Mueller Services Raalterweg 50 8124 AE Wesepe T: 0544 356 030	Gebr Knoll Rouveen Oude Rijksweg 525A 7954 GL Rouveen Tel. (+31) 0522 - 29 13 77	41 km	45 min
14.00	14.10	Visit Gebr. Knoll in Rouveen: Company introduction				
14.10	14.30	Introduction van AGRONIC MultiBalers				
14.30	14.45	Travel to Demo farm	Gebr Knoll Rouveen Oude Rijksweg 525A 7954 GL Rouveen Tel. (+31) 0522 - 29 13 77	Mts. Mulder-Knoll Schapendijk 20 7715 PT PUNTHORST		
14.45	16.00	Demonstration AGRONIC MultiBalers				
16.00	16.30	Departure to dinner	Gebr Knoll Rouveen Oude Rijksweg 525A 7954 GL Rouveen Tel. (+31) 0522 - 29 13 77	t Olde Regthuys Beekstraat 33 8081 EA Elburg	40 km	30 min
16.30	18.00	Free program in Elburg				
18.00	19.30	Dinner in Elburg	<i>Visite kaartje inleveren.</i>			
		Travel to hotel	t Olde Regthuys Beekstraat 33 8081 EA Elburg	Groot Heideborgh Garderen Hogesteeg 50, 3886 MA Garderen	40 km	45 min

Wednesday 8th of November						
From	to	activity	From address	to address	KM	time
07.30	08.30	Breakfast & Check-out				
08.30	09.00	travel to first farm	Groot Heideborgh Garderen Hogesteeg 50, 3886 MA Garderen	S Vels Hunnenwg 17 3781 NM Voorthuizen Tel: +31 342 474473 Mob: +31 6 51616322	9 km	10 min
09.00	10.30	Farm tour: Organic farm with Fleckvieh crossbreed cows and milking robot				
10.30	11.00	Departure farm and travel to ILC	S Vels Hunnenwg 17 3781 NM Voorthuizen Tel: +31 342 474473 Mob: +31 6 51616322	CRV Teugseweg 16 7418 AM Deventer	48 km	30 min
11.00	12.30	Company presentation/ tour				
12.30	13.30	Lunch				
13.30	14.00	Travel to Second farm	CRV Teugseweg 16 7418 AM Deventer	Fhg+Ga van Rossum- Nijenhuis Holterwg 82 8112 AE Nieuw Heeten Tel: +31 572 321543 Mob: +31 6 22386212	26 km	20 min
14.00	15.15	Farm tour: farm with red & white Holstein, black & white Holstein and Brown suisse cows with milking robot				
15.15	15.30	Departure second farm and travel to Third farm	Fhg+Ga van Rossum-Nijenhuis Holterwg 82 8112 AE Nieuw Heeten Tel: +31 572 321543 Mob: +31 6 22386212	P Dolman Vlessendijk 12 8111 RZ Heeten Tel: +31 572 382033 Mob: +31 6 20666105	5 km	10 min
15.30	17.00	Farm tour: farm with crossbred Holstein Friesian, Brown Suisse and Jersey.				
17.00	17.45	Travel to Hotel Groot Heidenborgh	P Dolman Vlessendijk 12 8111 RZ Heeten Tel: +31 572 382033 Mob: +31 6 20666105	Groot Heideborgh Garderen Hogesteeg 50, 3886 MA Garderen	56 km	45 min
17.45	19.00	Rest and refresh				
19.00		Dinner at hotel Groot Heideborgh Garderen				

Thursday 9th of November

From	to	activity	From address	to address	KM	time
07.30	08.15	Breakfast & Check-out			5 K	5 min
08.30		Travel to Denkvit	Groot Heideborgh Garderen Hogesteeg 50, 3886 MA Garderen	Denkvit Nederland BV Tolnegeweg 65 / Voorthuizen		
8.45		Receipt & welcome				
09.00		General Presentation Denkvit				
09.30		Presentation CMR's				
10.00		Visit lab + factory tour				
11.00		Visit PigFarm				
11.30		Visit DenkaFarm				
12.00		Lunch				
12.45		Closure				
13.15	14.00	Departure to For Farmers	Denkvit NL BV Tolnegeweg 65 / Voorthuizen	For Farmers Kwinkweerd 12 7241 CW Lochem		
		Visit For Farmers				
17.00	18.30	Travel to hotel	For Farmers Kwinkweerd 12 7241 CW Lochem	Haje hotel Joure Klokmakkerij 1, 8501 ZS Joure	143 km	1,5 uur
		Check in & Refresh				
19.00		Dinner at Haje Hotel				

Friday 10th of November

From	to	activity	From address	to address	KM	time
07.00	08.45	Breakfast & Check-out			5 KM	5 min
08.45	09.00	Travel to Broek	Haje hotel Joure Klokmakkerij 1, 8501 ZS Joure	Bles Dairies Bloksleat 5, 8512 AA Broek	10 km	11 min
		Tour & Company Presentation				
		Presentation Uniform Agri application				
12.00	13.00	Lunch				
13.00	13.50	Travel to Dairy Academy Oenkerk	Bles Dairies Bloksleat 5, 8512 AA Broek	Dairy Academy Oenkerk Sanjesreed 4, 9062 EK Oentsjerk	60 km	50 min
		Introduction and tour Dairy Academy Oenkerk				
		Introduction DTC practical training concept and tour trough training facilities				
		Travel to Dinner	Dairy Academy Oenkerk Sanjesreed 4, 9062 EK Oentsjerk	Wokpaleis Fryslân Rijksstraatweg 17 9256XD te Rijperkerk	6 km	10 min
18.00		Dinner with DTC team				
		Departure to Location				
		Travel to hotel	Wokpaleis Fryslân Rijksstraatweg 17 9256XD te Rijperkerk	Haje hotel Joure Klokmakkerij 1, 8501 ZS Joure		

Saturday 11th of November						
From	to	activity	Address		pax	
08.00	09.00	Breakfast & Check-out	Haje hotel Joure Klokmakkerij 1, 8501 ZS Joure			
09.00	10.00	Presentation Cow Signals Basics edition + Demonstration E-learning modules in Its learning				
10.00	10.30	Evaluation with DTC				
10.30	11.40	Travel to Zaanse Schans	Haje hotel Joure Klokmakkerij 1, 8501 ZS Joure	Schansend 7 Zaandam	125 KM	1u 10 min
12.00	13.00	Lunch with pancakes at Restaurant de Kraai				
13.00	14.30	Free program at Zaanse schans				
14.30	15.00	Travel to Ibis Hotel	Schansend 7 Zaandam	Schipholweg 181 1171 PK Badhoevedorp	28 km	25 min
> 15.00		Check-in and refresh				
End of official program						

APPENDIX C: Booklet

Program booklet



Meru Union Trade Mission



DAIRY TRAINING CENTRE



Welcome

On behalf of the entire Dairy Training Centre team, I would like to welcome you to this trade mission. With great pleasure we have organised this event for you.

During this mission you will be visiting several companies, operating in the dairy and food industry.

You will be accompanied by the following guides:

Sunday + Monday	Marina Nell	0031 (0)6-28132676
Tuesday	Willem vd Bent	0031 (0)6-14564827
Wednesday	Tseard van der Kooi	0031 (0)6-20091863
Thursday	Frans Ettema	0031 (0)622788133
Friday + Saturday	Marina Nell	0031 (0)6-28132676

In case of questions, you can call Marina Nell 0031 (0)6-28132676

We wish you a pleasant and fruitful stay in The Netherlands.

Marina Nell

E-learning Specialist

Dairy Training Centre

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Program summary

Sunday 5th of November

Travel to hotel, rest, refresh and dinner at the hotel
Dinner & overnight stay at Van der Valk Vianen

Monday 6th of November

Morning: Visit Van den Heuvel Dairy and Food in Molenaarsgraaf
Afternoon: Visit Den Eelder zuivel in Well
Dinner & overnight stay at Westcord hotel Salland Raalte

Tuesday 7th of November

Morning: Visit Mueller tanks
Afternoon: Visit Gebr. Knoll in Rouveen
Dinner & overnight stay at Groot Heidenborg Garderen

Wednesday 8th of November

Morning: Farm visit and visit ILC Deventer
Afternoon: Farm visits
Dinner & overnight stay at Groot Heidenborg Garderen

Thursday 9th of November

Morning: Visit Denkavit
Afternoon: Visit For Farmers
Dinner & overnight stay at Haje hotel Joure

Friday 10th of November

Morning: Visit Bles Dairies
Afternoon: Visit Dairy Training Centre & Dairy Academy
Dinner & overnight stay at Haje hotel Joure

Saturday 11th of November

Morning: Presentation CowHouse International
Afternoon: Visit Zaanse Schans and Amsterdam
Dinner & overnight stay at Ibis Hotel

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Welcome to The Netherlands

The Netherlands, also known informally as Holland, is a country in Western Europe with a population of seventeen million. It is the main constituent country of the Kingdom of the Netherlands, alongside with three island territories in the Caribbean (Bonaire, Sint Eustatius and Saba). The European portion of the Netherlands exists out of twelve provinces and borders Germany to the east, Belgium to the south, and the North Sea to the northwest.

The five largest cities in the Netherlands are Amsterdam, Rotterdam, The Hague, Utrecht (forming the Randstad megalopolis) and Eindhoven (leading the Brabantse Stedenrij). Amsterdam is the country's capital, while The Hague holds the Dutch seat of parliament and government. The Port of Rotterdam is the largest port in Europe and the world's largest outside East Asia. Utrecht is a central node for road and railway communications, commerce and cultural events, while Eindhoven is an innovative city known for its economic attractiveness.

"Netherlands" literally means "lower countries", influenced by its low land and flat geography, with only about 50% of its land exceeding one metre above sea level. Most of the areas below sea level are artificial. Since the late 16th century, large areas (polders) have been reclaimed from the sea and lakes, amounting to nearly 17% of the country's current land mass. With a population density of 412 people per km² – 507 if water is excluded – the Netherlands is classified as a very densely populated country. Only Bangladesh, South Korea, and Taiwan have both a larger population and higher population density. Nevertheless, the Netherlands is the world's second-largest exporter of food and agricultural products, after the United States. This is partly due to the fertility of the soil and the mild climate.



1: Map, indicating the areas below sea level

17 Million people

4.2 Million ha

1.6 Million Dairy Cows

1.2 Million ha grass

General information about The Netherlands:

Area:	41,528 km ² (18.41% water)
Total population:	16 904 594 (1 January 2015)
Population density:	412 people per km ²
Capital city:	Amsterdam (inhabitants: 823.827 in 2015)
Government:	The Hague (inhabitants: 515.880 in 2015)
Official languages:	Dutch, Frisian
Type of government:	Constitutional monarchy – parliamentary democracy
Dependent areas:	Aruba, Curacao, Sint Maarten
Religion:	26% Roman Catholic, 16% Protestant, 5% Muslim
Currency:	Euro
National holidays:	King's Day (the King's birthday of 27 April (1967); celebrated on 26 April if 27 April is a Sunday)
Highest point:	323 m (Vaalserberg, Limburg)
Lowest point:	-6.7 m (Nieuwerkerk aan den IJssel, Zuid-Holland)
Average temperature in July:	17.9 °C
Average temperature in January:	3.1 °C
Climate:	Cool summers and mild winters
National symbol:	lion, tulip; national colour; orange

Agriculture

The Dutch agri-food sector benefits from Holland's mild climate, flat and fertile soil and favourable location at the heart of Europe. The sector can capitalise on expertise in transport and logistics and the presence of the Port of Rotterdam and Amsterdam Airport Schiphol.

The Netherlands is a small country that thinks big. Due to its fertile soil and smart solutions, it is the second-largest exporter of agri-food products in the world, after the United States. Hard effort and smart working practices have resulted in a workforce that has the highest added value per FTE in Europe. Companies, knowledge institutes, and policymakers have joined forces in order to create a well-equipped and highly effective knowledge infrastructure that meets the requirements of today's knowledge-intensive agri-food sector, enabling the sustainable and efficient production of high quality, healthy and tasty foods. Dutch entrepreneurs and researchers are eager to address and solve global challenges. In order to achieve this aim, they invest, for example, in state-of-the-art-scientific solutions as well as developing practical solutions for the agri-food sector.

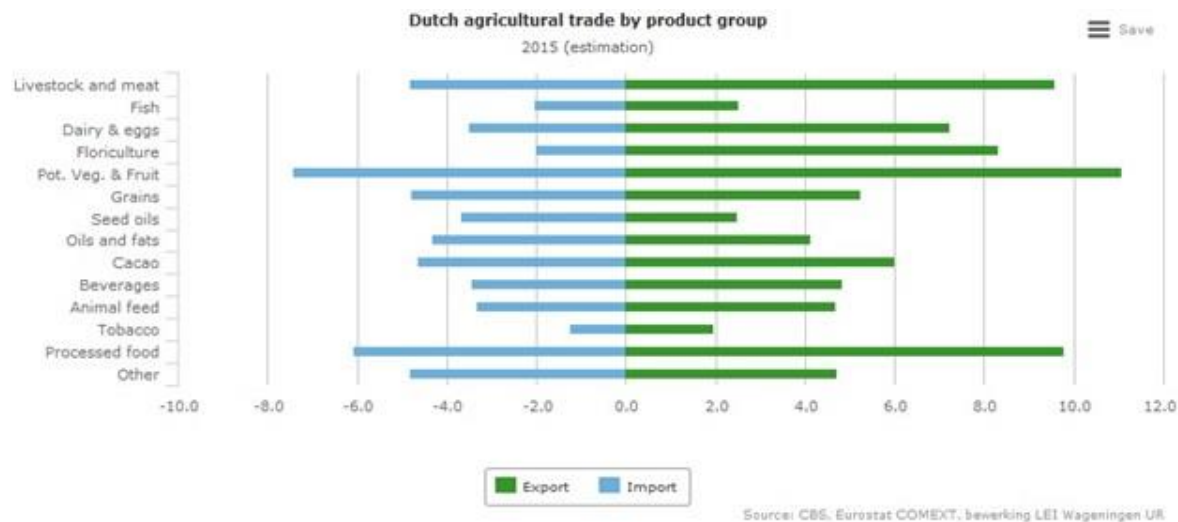
The strong agri-food sector dates back centuries, as the Dutch created new farmland through land reclamation and built greenhouses to grow fruit and vegetables. For decades, Dutch

agriculture has held the lead over international competitors by continually investing in renewing agricultural production chains.

The agri-food sector is one of the main drivers of the Dutch economy, contributing some 10 percent to the economy and employment. The sector is responsible for a proportionally greater share of national industrial production than any other country in the European Union, not least because the Netherlands is the home of several world-renowned agri-food multinationals.

The Netherlands is a hotbed of agri-food R&D in, due largely to the excellent knowledge base at several universities, research institutes and industrial R&D centres. The Dutch government strongly supports agri-food related initiatives in public-private partnerships, innovation programs, and clusters such as Food Valley.

Focus themes as identified by industry, knowledge infrastructure and the government are: healthy food, food safety & quality, and sustainability & food security.



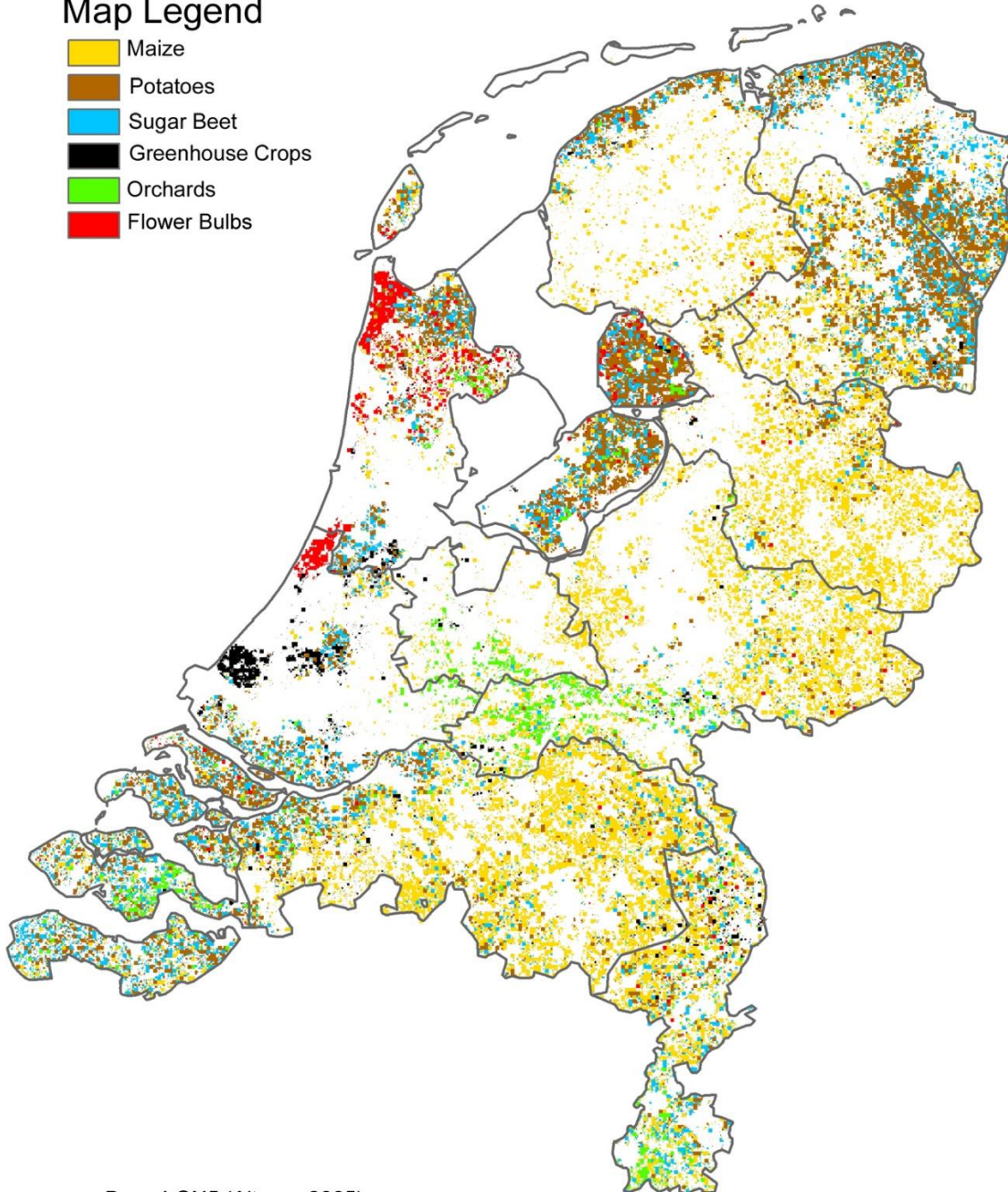
Did you know?

- In Europe Holland has the 2nd highest private R&D investment rate in agri-food (as % of GDP)
- Of the world's 40 largest food & beverage companies 12 have a major production site or R&D facilities in the Netherlands
- The Netherlands is the global market leader in machinery for processing: poultry, red meat, bakery, cheese products with the turnover of 2,3 billion Euro of which 80% is exported
- The agri-food sector is one of the major drivers of the Dutch economy with a contribution of 52,3 billion Euro added value to Dutch GDP which provides work and income for more than 660,000 people

Source: Dutchagrofood.com

Map Legend

- Maize
- Potatoes
- Sugar Beet
- Greenhouse Crops
- Orchards
- Flower Bulbs



Bron: LGN5 (Alterra, 2005)

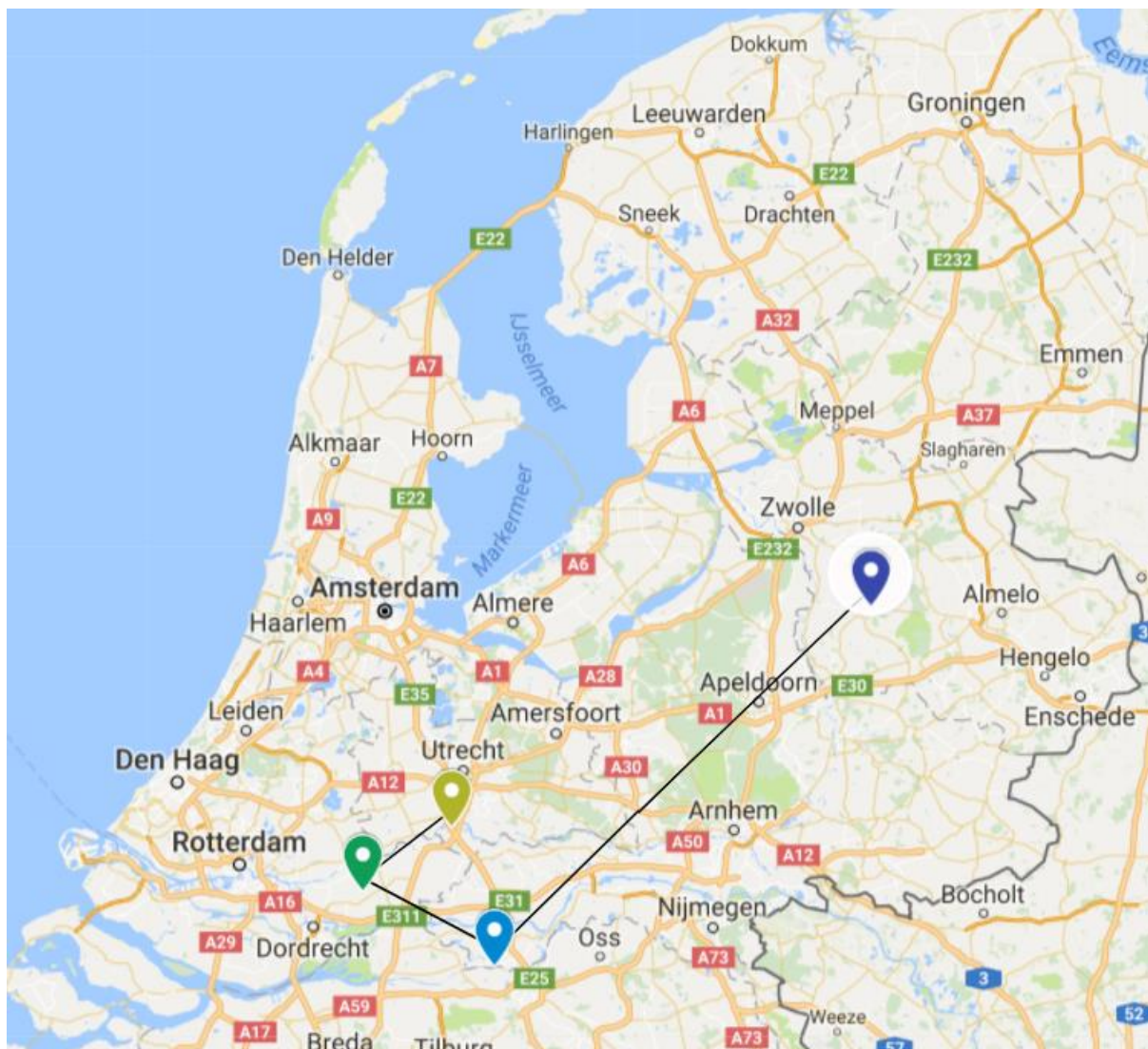
Sunday 5th of November

- 14.45 Arrival at Schiphol
- 15.45 Travel to the Van der Valk hotel in Vianen
- 16.30 Rest and refresh
- 18.00 Dinner at hotel



Monday 6th of November

- 07.00 Breakfast & Check-out
- 07.45 Travel to Van den heuvel in Molenaarsgraaf
- 08.30 Visit cheese factory and see production of Gouda cheese
- 09.45 Introduction Van den Heuvel Dairy & food Equipment by Nico Maat
- 10.45 Departure to Second location
- 10.55 See dairy processing equipment
- 11.45 Departure for lunch
- 12.00 Lunch
- 13.00 Departure to Den Eelder in Well
- 13.45 Tour at Den Eelder
- 16.00 Departure to Westcord hotel in Raalte



Van den Heuvel Dairy & Food equipment

Supplier for dairy and food processing industry world-wide.

Van den Heuvel Dairy & Food Equipment is a world-wide known supplier of high quality dairy machinery and processing equipment for the production and storage of dairy products (milk, cheese, butter, yoghurt, curds, kefir) and liquid foodstuff. Our equipment, from single components for dairy machines to entire production lines, comprises of custom-made expert work and complies with the latest European directives. Next to it, we offer a large selection of both new, second-hand and re-manufactured machinery for the dairy industry, as well as cheese production lines equipment.

Dairy equipment and components

On stock we offer a wide range of second-hand, re-manufactured and new equipment for entire cheese production lines, for example curd processors, cheese presses, cheese moulds, brine-maturing installations, separators, and bactofuges. Next to it we have a large selection of process- and storage tanks, pumps, milk filters, pasteurisation units, homogenisers, yoghurt-, kefir-, curds, butter, smetana and cream installations. We often built the several components together on a skid. So the complete unit can be placed in your factory. We gladly show you around.

Den Eelder Zuivel

Den Eelder is a family farm that is run by Ernst and Jacomine since 1983. On their dairy farm in Well, they process the milk from their cows into several fresh dairy products that are sold in all supermarkets in the Netherlands.



Tuesday 7th of November

- 07.30 Breakfast & Check-out
- 08.45 Travel to farm with Mueller tanks
- 09.00 Visit farm and see Mueller Tanks in operation
- 10.30 Travel to Mueller
Visit Mueller Tanks Wesepe: Cooling tanks/ Equipment. Used cooling tanks and solar can cooler, including Mueller company presentation.
- 12.00 Lunch
- 13.00 Travel to Gebr. Knoll in Rouveen
- 14.00 Visit Gebr. Knoll
Company introduction and Introduction AGRONIC MultiBalers
- 14.30 Travel to Demo farm
- 14.45 Demonstration AGRONIC MultiBalers
- 16.00 Departure to dinner in Elburg
- 16.30 Free program and dinner in Elburg
- 19.30 Travel to Groot Heidenborgh Garderen



Mueller B.V.

Milk Cooling Specialist: The main focus is on dairy farm equipment: the company is well known for its high quality milk cooling and storage solutions and on the spot technical assistance and support. On the spot service and maintenance is a key element for Mueller to be able to provide a continuous reliable cooling solution. In the Netherlands, Mueller is already more than 70 years active. It has its head office located in Assen, its service organisation in Wesepe and its manufacturing plant in Lichtenvoorde, employing a total of 250 employees. In the Netherlands Mueller is market leader for on farm milk cooling tanks. In addition, the company is also the biggest trader in used tanks worldwide. Globally active: Mueller exports new and used milk cooling tanks to over 50 countries. Mueller also has production locations in Vietnam and USA, where the parent company is located. Internationally Mueller operates with a wide and expanding network of dealers, all trained to install, service, maintain and market the Mueller products. Through this dealer network Mueller is capable to provide technical and maintenance support on the spot. With the current expanding towards Africa and Asia, Mueller is in cooperation with (local) milk- processors, government and non-governmental organizations focusing on the realisation of milk collection centers small and large scale. Mueller is innovating its products and adapting it towards the local needs. For small scale farmers and areas without electricity, a biogas cooler and solar cooler are developed. The solar cooler works on solar power, and enables producers to preserve the quality of the (evening) milk in areas without availability of electricity.

Gebroeders Knoll

Gebr. Knoll is a family business, with more than 50 years of knowledge and experience in agricultural and garden machinery business. It has grown into a professional and versatile machinery equipment partner. The company is located in the picturesque village Rouveen situated between Meppel and Zwolle in Overijssel.

As an official dealer of f.i. Massey Ferguson, Gebr. Knoll offers a wide range of tractors and machinery to a large amount of customers in a wide area in the agricultural sector.

Many years of specialism in balers and wrappers of the brands Agronic and Tawi, has made the company known in many countries. Also world class products like Kuhn, Fella, Trioliet and McHale belong to our range of product supply.

For a wide range of garden machinery, such as Stihl, Viking, Stiga and Iseki, customers know how to find Gebr. Knoll. Coupled to all this, with some very traditional values regarding good old fashioned customer service, together with our skilled and motivated staff, Gebr. Knoll is able to make your next machinery purchase a very enjoyable experience.

Our strength? Doing what WE do best! GEBR.KNOLL!

Wednesday 8th of November

- 07.30 Breakfast & Check-out
- 08.30 travel to first farm
- 09.00 Farm tour: Organic farm with Fleckvieh crossbreed cows and milking robot
- 10.30 Departure farm and travel to ILC
- 11.00 Company presentation/ tour ILC
- 12.30 Lunch
- 13.30 Travel to Second farm
- 14.00 Farm tour: farm with red & white Holstein, black & white Holstein and Brown Suisse cows with milking robot
- 15.15 Departure second farm and travel to Third farm
- 15.30 Farm tour: farm with crossbred Holstein Friesian, Brown Suisse and Jersey.
- 17.00 Travel to Hotel Groot Heidenborgh
- 17.45 Rest and refresh
- 19.00 Diner at hotel Groot Heideborgh Garderen



CRV

Organisation

CRV is a co-operative that is owned by the Dutch co-operative CR Delta and the Flemish co-operative VRV. About 27,000 dairy and beef farmers in the Netherlands and Flanders are member of these co-operatives and they have great influence on CRV's policy. They do this through the co-operative's advisory bodies and member committees.

Core business

Cattle improvement is the core business of CRV. This means that our field of activity includes breeding, collection and processing of cattle data, herd book activities, on-farm services, management products and publishing magazines.

Continuity

Being a company with a co-operative base, CRV wants to create sustainable added value to support the continuity of our members' and customers' businesses for future generations. Reliability and transparency are therefore very important in the way we serve our customers. CRV focuses on return on investment and long-term benefits for all stakeholders including all members, customers, employees, suppliers and the society.

Better cows

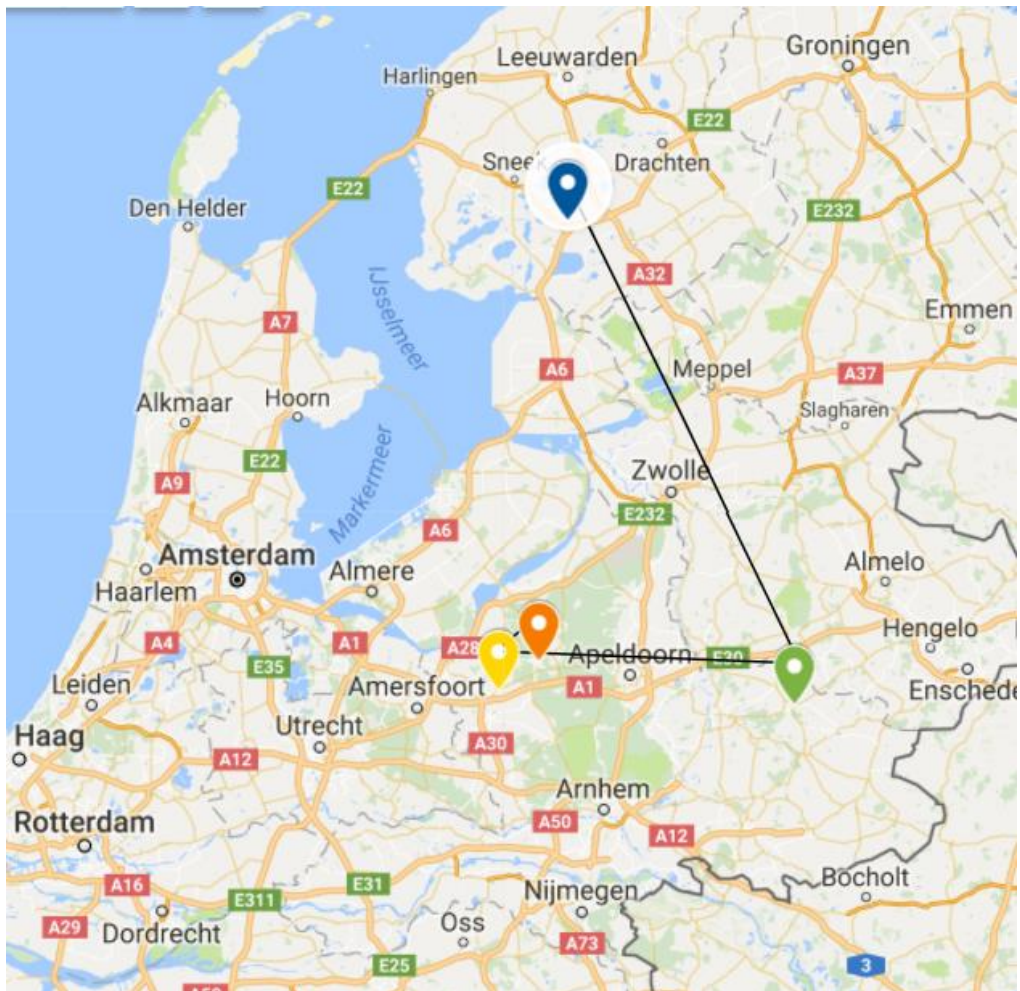
Being a dairy farmer or beef farmer, having an extensive or intensive production system and no matter what breed, almost every farmer in the world wants to improve his farm whether it is the individual cow or the whole herd. Breeding for better cows is possible in many different ways: better production, better longevity, faster growth, better health, better fertility, better conformation and so on. CRV helps the farmer to breed for better cows by providing genetics, information products, services and knowledge.

Better life

It is important for the dairy producer that cows have excellent milk production. A farmer also cares about welfare and wants the cows to live a long and healthy life. Furthermore, the farmer, herd manager or farm employee is looking for a good work-life balance. CRV aims to provide all dairy and beef producers worldwide with solutions that support them in their management. Using labour more efficiently, making time for a social life, increasing turnover and decreasing the cost price are just some elements that contribute to a better life supported by CRV's solutions.

Thursday 9th of November

- 07.30 Breakfast & Check-out
- 08.30 Travel to DenkaVit
- 8.45 Receipt & welcome
- 09.00 General Presentation DenkaVit
- 09.30 Presentation CMR's
- 10.00 Visit lab + factory tour
- 11.00 Visit PigFarm
- 11.30 Visit DenkaFarm
- 12.00 Lunch
- 12.45 Closure
- 13.15 Departure to For Farmers
- 14.00 Visit For Farmers
- 17.00 Travel to hotel
- 18.30 Check in & Refresh
- 19.00 Dinner at Haje Hotel Joure



Denkavit

Working today on livestock farming of tomorrow

Denkavit is the specialist in feed for young animals. Over sixty years of knowledge and experience in the field of feed for young animals forms the basis for a balanced range. Carefully developed together with our supply chain partners, our principles are always the same: high-quality, advanced and sustainable raw materials, controllable quality, and traceable origin. They form the foundation for a high-quality product range that is appreciated around the world.

As everyone knows, veal calves, breeding calves, piglets, and lambs grow quickly and, above all, healthily with feed from Denkavit. For those young animals that could use a little extra help, we have developed health supplements. We also market a wide range of high-performance specialized raw materials and additives under the name Denkavit Ingredients.

For livestock farming of today and the future...

We develop the feed and raw materials of tomorrow in our own laboratories and DenkaFarm Innovation Centres. In this way, we ensure that we continue to grow together with our customers.

We combine knowledge of nutrition with animal husbandry and calf rearing throughout the veal production chain. Within the integration, we work closely with veal farmers and local, specialized veal slaughterhouses. We apply this knowledge across the entire veal production chain. This collaboration allows us to constantly work towards creating the most delicious veal.

For Farmers

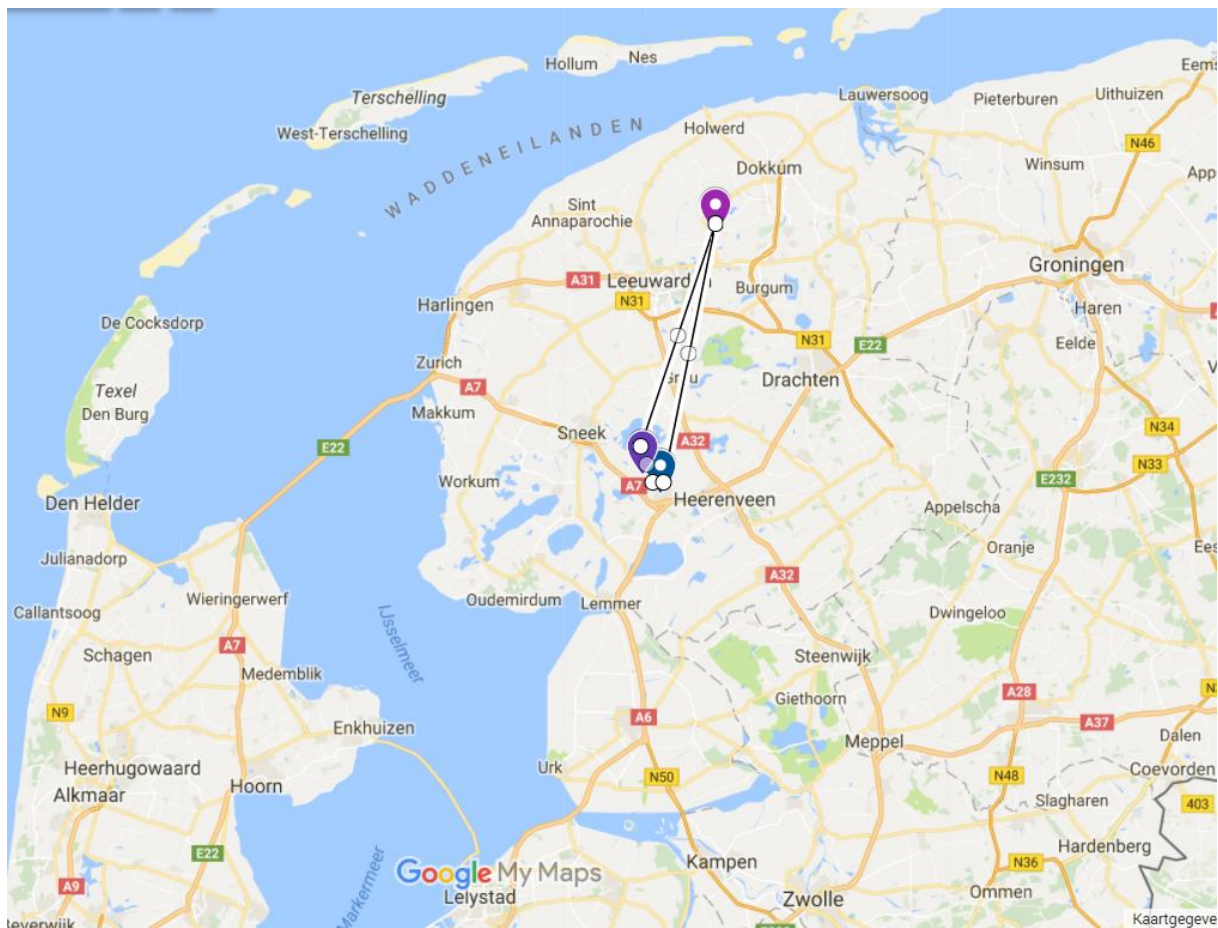
Company Profile

ForFarmers (Lochem, the Netherlands) is an internationally operating feed company that offers Total Feed solutions for conventional and organic livestock farming. ForFarmers gives its very best “For the Future of Farming”: for the continuity of farming and for a financially secure sector that will continue to serve society for generations to come in a sustainable way. By working side-by-side with farmers ForFarmers delivers real benefits: better returns, healthier livestock and greater efficiency. This is achieved by offering tailored and Total Feed solutions and a targeted approach with specialist and expert support.

With sales of approximately 9.3 million tons of feed annually, ForFarmers is market leader in Europe. ForFarmers has production facilities in the Netherlands, Belgium, Germany and the United Kingdom. In 2016, ForFarmers had 2,273 employees and revenues amounted to over € 2.1 billion.

Friday 10th of November

- 07.00 Breakfast & Check-out
- 08.45 Travel to Bles Dairies in Broek
Tour & Company Presentation Bles Dairies
Presentation Uniform Agri application
- 12.00 Lunch
- 13.00 Travel to Dairy Academy Oenkerk
Introduction and tour Dairy Academy Oenkerk
Introduction DTC practical training concept and tour through training facilities
- 17.00 Dinner with DTC team
- 20.00 Travel to Haje hotel



Bles Dairies East Africa Ltd

Bles Dairies East Africa Ltd. trades in Dairy Livestock, Genetics and Consultancy. The company is based in Eldoret and is an affiliate of the Bles Dairies Group of companies having its headquarters in Leeuwarden, The Netherlands. See detailed information at www.bles-dairies.nl.

In addition to the supply of high productive pedigree heifers Bles Dairies East Africa also organises Dairy Advisory & Training Services for its clients. Dairy farmers who have committed themselves to the procurement of heifers, will receive a visit by our Dairy Advisor who will assess the existing farming situation and will advise the farm owner about the requirements of feeding and housing capacities. Also after sales - once heifers arrived at the farming location - the Dairy Advisor will give the farm owner advice about dairy feed rations and dairy management aspects.

Concerning its Dairy Consultancy Services, Bles Dairies E.A. conducts professional studies – Business Plans & Financial Feasibilities – for clients who intend to invest in large scale dairy operations. In addition Bles Dairies E.A. provides management services of projects involving the whole dairy value chain, from farmer's fresh milk collection to implementing Milk Quality Based Payment systems.

Uniform Agri

UNIFORM-Agri is an international company that develops, sells and supports management systems for dairy farmers all over the world. We are specialists in recording and managing dairy farm data and have developed close working relationships with the leading milking parlour manufacturers, milk recording companies and other industry partners worldwide. Our aim is to provide you with the best dairy management software you can get.

Every day thousands of dairy farmers around the world rely on their UNIFORM software for the daily administration and management reporting on their dairy herd. Continual product development and annual support contracts mean that the UNIFORM software is always up to date for the latest changes in both hardware and software platforms, regulatory changes and industry practices.

Our International Helpdesk will work with you to setup, install and support your management software, providing friendly telephone advice and online PC -to-PC support. We can communicate with customers in twelve different languages and our software is now available in over thirty three different languages. With an agricultural passion, our highly educated support team is proud to communicate with a 'farmer's heart and IT know-how' so that when you need help you are straight through to a specialist who really understands your business.

Uniform-Agri appointed Vilan Computers to be the local dealer so that other farmers can have access to the software.

Dairy Training Centre

Dairy Training Centre's vision: "Learning by doing" For over 40 years now DTC conducts international training programs, consultancy and capacity building alongside the implementation of training projects all over the world. Acquired knowledge and skills can be used straight away once students return to their farms – milk processing plants back home, anywhere in the world. Dairy Training Centre receives more than 3.500 participants per year. The background of the participants is very diverse. From Dutch dairy farmers to students of regional Universities and from large scale Russian dairy farm managers to Tanzanian female small scale milk processors. For individual participants, Dairy Training Centre offers standard training programs with a duration of 1 day till 6 months. For companies and development projects, custom – made programs based on the needs and wishes of the client can be offered. Since 2013 DTC is integrated in the Dairy Campus, the Netherlands Centre for Innovation, Education and Research for the Netherlands Dairy Sector. Within the Dairy Campus organizations like Wageningen UR Livestock Research, Van Hall – Larenstein Agricultural College, the National Farmer Organization "LTO" and commercial enterprises active in the Dairy Value Chain in the Netherlands as well as abroad are cooperating. The objective of this cooperation is to connect and strengthen organizational qualities and expertise.

Saturday 11th of November

- 08.00 Breakfast & checkout
- 08.30 Presentation Cow signals booklet and E-learning module
- 09.00 Presentation Cow comfort concept by CowHouse International
- 10.30 Travel to Zaanse Schans
- 12.00 Visit Zaanse Schans
- 13.00 Lunch with pancakes at Restaurant de Kraai
- Travel to Ibis Hotel
- > 14.00 Check-in and refresh



The Afsluitdijk

English: Enclosure Dam, is a major causeway in the Netherlands, constructed between 1927 and 1932 and running from Den Oever on Wieringen in North Holland province, to the village of Zurich in Friesland province, over a length of 32 kilometres (20 mi) and a width of 90 metres (300 feet), at an initial height of 7.25 metres (23.8 ft) above sea level. It is a fundamental part of the larger Zuiderzee Works, damming off the Zuiderzee, a salt water inlet of the North Sea, and turning it into the fresh water lake of the IJsselmeer.



2: The Afsluitdijk



3: Reclaimed land (dark green)

Zaanse Schans

The Zaanse Schans is a residential area in which the 18th and 19th centuries are brought to life. Stroll past the bakery museum and enjoy the smell of fresh bread, or take a look at the warehouse where clogs are made. You should be sure not to miss the cheese factory, pewter foundry and the various windmills. The Zaanse Schans is a unique part of the Netherlands, full of wooden houses, mills, barns and workshops. Make a cycling or sailing trip, browse the shops or treat yourself at the pancake restaurant.



The End