



LEONARDO DA VINCI
TRANSFER OF INNOVATION
CONVENTION 2011-FR1-LE005-24388



Report of the meeting New Advisers N°5 in Budapest (Hungary), September 10th - 12th, 2013

A. Conditions of the meeting

in Hotel Leonardo - from 9:00 a.m. to 6:30 p.m. (to 4:30 on 12th)

Participants:

Philippe Blondeau - CRA Poitou Charentes and Sarah Beigel - AC3A - Lead partner
Joao Carlos Da Silva Coelho and Joao Nuno Novais -- Casa Escola Agricola CampoVerde -
Constante Lorenzo Santos and David Colunga – Federacion EFA Galicia
Michael Hennessy and 4 advisers from Teagasc (Ireland)
Karl-Heinz Kolb - bbv-LandSiedlung GmbH ; Ann Kathrin Spiegel – FiBI
Hanna Johansson, Per Erik Larsson and Asa Käck – Hushållningssällskapet - Sweden
Katalin Langer - Hungarian Chamber of Agriculture (from September 11th at 2:00 p.m.)
Ales Tolar - Chamber of Agriculture and Forestry of Slovenia (until September 11th at 11:00 a.m.)
Etienne Regnaud – APCA Resolia and Eric Waldmeier, IALB
Claude Delbos, Coordinator, Chamber of Agriculture of Nantes

Guests:

Marco Barzman – INRA-Endure – Co-organisation of the workshop
Michael Kugler – German Chambers of agriculture
See signature sheets (Hungarian advisers, and overall record)

Tom O'Connell, Eamonn Lynch, Eddie Burgess and Martin McCullagh, from Teagasc (Ireland)
Åsa Käck from Hushållningssällskapet - Sweden

Excused:

Rosa Leis - Federacion EFA Galicia and Pascal Dagron - Lead partner - AC3A

B. Objectives of the meeting

Coordinator: Some members of the consortium have left their jobs. The new members are welcome and introduce themselves. The aims of the meeting are the following ones:

1. Achieve our commitments: production of all outcomes and dissemination of results, during the workshop and the following weeks.
2. Facilitate the participation of all partners, considering change of persons, delays and unimplemented actions
3. Open some developments after New Advisers (projects and networks)
4. Organize final reporting: The Steering committee at 5:45 p.m. is important for some budgetary and administrative decisions: Information on the procedure of budget amendment and agreement of the head of each organization to present our demand to the National Agency

C. What we have already done

- A survey on main problems and resources for advice about pest control in 8 countries
- A test on 3 advisory tools on a local topic
- A workshop about advisers' competencies already used or to be developed

- 4 tutorials using image-theatre as a pedagogic way to transfer new tools
- 4 meetings and 12 documents (outcomes)
- 2 bilateral visits about tools and skills
- Involvement of local stakeholders at each meeting

Discussion:

- In the different outcomes, there are some inconsistencies in the presentations of each advisory system (the ones involved in the project). Can each partner write 3 or 4 lines about his/her advisory system and 3 or 4 lines on the international system and give it to Michael? This can then be inserted into the texts (especially N°1 and N°8). DEADLINE = TOMORROW
- Can partners hold a dissemination workshop in Portugal and Germany in October 2013? Other opportunities to present the results of the project- one in the Netherlands in October (Michael will attend, on the project budget), and another in November in Brussels for ENDURE (Michael and Philippe - ENDURE could pay for travel costs for this?).
- Perhaps we need a summary- 8-page communication document on the CONCLUSIONS of the project, with some examples. Aimed at advisers (and maybe policy makers too). Tools we selected- what worked/didn't worked, skills and competencies, diagram of an advisory team? Claude will suggest a plan (end of the month), then everyone completes this, Sarah will check the English. This will be useful for journalists, our websites etc.
- Evaluation of the project: before the end of this meeting, everybody has to answer about '*how has the project changed our perception of the advisory job?*'

D. What has been happening in each country

- Hanna (Sweden): our local workshop in April was an opportunity to discuss the challenges of being an adviser. Advisers colleagues have noted that they had the same problems as me! I mentioned the project to colleagues, and will also present New Advisers at a conference to teachers and advisers during training with the Sweden Association of Agronomic and rural economy. We also plan to do so in a vocational school. The 8 (or 4)-page text will be useful!

- Joao (Portugal) Still difficulties to reach advisers who work independently, related to the fact of their private status. The direction of our school has changed. We envision local development projects in conjunction with the parents.

- Constante (Spain): We are working on 2 levels- one is the government, and a new way of thinking to address new issues (e.g. the introduction of new parasites) and secondly the training of trainers in the use of new tools.

- Karl Heinz (Germany): difficulties in establishing an operational contact with fellow advisers. The colleague with whom I worked moved to another organization. We intend to continue with a vocational school and the area of organic farming.

- Philippe (France), we are building a development project using Clear Vision and Discussion Group. In early October, we will make a speech at a national meeting of advisers Ecophyto and present the project to the new elected presidents and other CA members.

- Michael (Ireland): The government has just published our National Action Plan, Teagasc and has made a proposal on the operational action plan for farmers, with the support of a Dutch researcher member of Endure. In addition, interviews 'Clear Vision' are a challenge in our organization because we want to use it in contact with farmers on a similar model to the management. For the use of PBL, we have a project on the Moodle platform on a model for store keepers.

- Ales (Slovenia) and Katalin (Hungary): in both countries, the dismissal of all persons who participated in the project so far inevitably hampers the continuity of actions and even the transmission of information. In both countries there was on April 2013 a meeting with about 12 advisers to present the tools.

E. Watching the videos

The four videos are projected for the first time, and appreciated by the participants as useful effective pedagogical tools. Question on the music on “Problem based learning”, bit distracting?

Some corrections are required on “Discussion group”:

- “Meadow grass” and not “blue grass”
- Change the type of text at the end of the clip; it’s strange in capital letters.

Publication in the 8 partners’ languages will be possible if each partner performs the translation in time. Diffusion will go on in our national languages, which is an advantage to reach wider audiences.

F. Organized visits and meetings for advisers guests

1. Names of participants : Tom O’Connell, Eamonn Lynch, Eddie Burgess and Martin McCullagh, from Teagasc (Ireland), Åsa Käck from Hushållningsällskapet - Sweden
2. Program of visits – See Appendix I
3. Report by the group of Advisers guests - See Appendix II

G. Workshop on «Innovative advice for less pesticide

1. General course of the workshop: the coordinator is asked to prepare the framework of the project and of the workshop, which will be presented by the chairman, Mr Gabor Szalkai (Say that the facilitation is provided by all members of the consortium and require the active participation of all participants).
2. Positions on the topics to be presented by Michael and Karl Heinz:
 - a. our proposals: working at the team or the network (effective team) - show that knowledge is produced in interactions within a system - identify complementary skills - enhance training
 - b. show the added value of the project - identified weaknesses: lack of information and training – needs of strategic goals for management - opportunity that the arrival of new themes to develop skills (e.g. IPM, NAP)
3. Distribution of tasks for the animation of subgroups
SUB-GROUP 1 - Topic: *How this tool may be useful for me?*

Tool Subgroup	Facilitator	Expert	Reporter
A - Clear Vision	<i>Constante</i>	<i>Philippe</i>	<i>Karl Heinz</i>
B - Problem Based Learning	<i>Hanna</i>	<i>Pier Erik</i>	<i>Joao/Sarah</i>
C - Discussion Group	<i>Ann-Kathrin</i>	<i>Michael</i>	<i>Ares/Katalin</i>

SUB-GROUP 2 - Topic: *How can we maintain, develop, and adapt the skills of agronomic advisers? in my country? And with other members states?*

Issue	Facilitator	Expert	Reporter
D - National initiatives concerning advisory bodies and government policies	<i>Ann-Kathrin</i>	<i>Asa</i>	<i>David</i>
E - European initiatives (CAP, EIP...)	<i>Philippe</i>	<i>Marco</i>	<i>Per Erik</i>
F - What can we do? In professional and transnational projects?	<i>Michael</i>	<i>Eric</i>	<i>Karl Heinz</i>

4. Preparation of the working session about tools in three subgroups

- ❖ CV: introduction, presentation of participants, video, user's experience, additional explanations, individual research on '*how I can use CV in my activity*', sharing and conclusion.
- ❖ PBL: introduction, video, interview of a user, implementation of five steps on an example (glass of water - the audience develops the problem), focus on the question: *how can we use it?*
- ❖ DG: Quick overview of all participants, video commented on the critical points, question: *how DG may be useful?* - Other topics: how to start a DG? How to find the common subject?

5. Course of the workshop, see the separate report

H. Dissemination of the results

The WP5 is fully implemented, according to formal commitments with the Leonardo national agency. Given the opportunities and needs identified throughout the project, the partnership intends to complete the frame of dissemination activities as follows:

1. Finishing and publishing all outcomes - Publication of the 4 videos on the internet

2. Writing a final document useful for wide communication

Aim: According to the results of the project, what lead me to change my view on the future

Target audience: we will try to make a single public document for two audiences:

Advisers: how can I change?

Policies makers and managers: where to invest? for change?

Content:

Context: more complex approaches, role of advisers is changing

Conclusions from the project: transnational transfer of tools is possible, if ..., soft skills must be developed

Consequences: advisers need transnational support, organization of advisory services

Funding: for improving efficiency of the system, for training for trainers (methodology)

Name of partners - address of the web sites

3. Organization of local workshops involving advisers, trainers and students with whenever possible implementation of 'Learning by doing' on the tools, and reflection on the skills mobilized and the evolution of advisory.

4. Participation in training at European level and in transnational projects, including with non-EU countries (Hungary gets students from Central Europe, Turkey, Uzbekistan)

I. Feedback from the 3 days (on Thursday 12th September 2013)

Workshops: Subgroups- worked very well, very animated, very useful, not enough time! The preparation on the first day of meeting was necessary and then worked well. Translation was very good! It worked well. It should be noted the strong need to discuss of the participants advisers, including Hungarian people.

Videos: wherever the videos are on line, they need to be linked to other documentation to give background to the tools. The video shouldn't be seen without the link. Change blue grass to Meadow Grass and change the capital letters.

Report on the visits: With the group of Irish advisers, Asa learned a lot about agriculture in Hungary, and made nice connections. She got answers to her questions; it was useful to have various different nationalities together.

Final document (conclusions of the project, with photos) – Difficult for one document to be adapted to the two main target audiences: "2 pages" for 'policy makers, "8 pages" for advisers. A (bad?) compromise would be "4 pages"! The coordinator should collect all of the info and write a draft. Michael will rewrite it in good English – Dead line: Mid October 2013

A. Work schedule for the next two months

Who do it?	Before when?	What to do?	WP
P05	2013, 10/15th	Transmit the final evaluation of the project	WP4
P10	2013, 10/08th	Write a final (4 page) document of synthesis and communication. Everyone reacts and complete - Michael rewrite in good English	WP5
All partners	2013, 09/30th	Send the coordinator feedback on all Outcomes	WP5
All partners	2013, 09/30 th	Use all the networks to inform on the project – Contact each Leonardo National Agency, others projects and stakeholders	WP5
P01-04-05-06-07	2013, 10/10th	Translate texts of the 4 videos into the different official E.U languages which are in the partnership: de/en/es/fr/hu/pt/sl/sv	WP5
P10	2013, 10/20 th	Finalize all the outcomes	WP5
P00-03	2013, 10/30th	Present the results during the Endure meeting about Co-Innovation on November 27-28th, 2013 in Brussels (M.Hennessy and P.Blondeau)	WP5
P10	2013, 10/30 th	Publish the 4 tutorial videos (=Outcome N°15) on a video web site and the Outcomes on Adam and Endure sites	WP5
All partners	2013, 10/6th	Transmit AC3A financial documents	WP6
All partners	2013, 09/25th	Send budget agreement signed by the head of each partner organization	WP6
All partners	2013, 09/25th	Send to the coordinator any notes taken during the workshop for a more complete presentation of the work done	WP6
All partners	2013, 09/25th	Share photos and notes from last meeting on the Google docs	WP6
P00	2013, 09/30th	Transmit to the National Agency the application for budget amendment	WP6
P02-04	2013, 10/10th	Portugal and Germany: confirm the workshop and the date	WP6
P03-04-05-06-07	2013, 10/15th	Answer the questionnaire on Google Docs on what has succeed in each country, what has yet to be done	WP6

Appendix I:

FIELD TRIP - DRAFT PROGRAM

10th September 2013:

9.00.: departure from Hotel Leonardo

9.30.: visit of the **Research Institute for Animal Breeding and Nutrition at Herceghalom**
<http://www.atk.hu/>

Lunch

14.0.: visit of the **Centre for Agricultural Research, Hungarian Academy of Sciences at Martonvásár**
<http://www.mgki.hu/start.php?lang=en>

11th September 2013:

9.00.: visit of a **farm of Mezőfalva Zrt.**

Back to the hotel

Lunch

14.00.: beginning of the **Leonardo Conference**

Appendix II: REPORT OF VISITS AND MEETING WITH COLLEAGUES

Advisory Interaction Report

“New Advisers” Leonardo Da Vinci Transfer of Innovation Project Workshop

Budapest, September 2013.

Introduction: Agricultural advisors that are colleagues of members of the New Advisers working group visited two Agricultural Research Centres and one farm close to Budapest in advance of the fifth meeting of this group. While on these visits they were able to interact and compare their advisory services with each other. This report outlines the different agricultural advisory programmes provided by those on the agricultural visits. The descriptions that follow are of the individual advisors role and may or may not reflect the advisory service provided by everyone else working as an advisor in their country.

Participants:

Peter: Hungarian Chamber of Agriculture

Åsa Käck: Hushallningssällskapet Väst – Sweden

Martin McCullagh, Eamonn Lynch, Tom O’Connell and Edward Burgess:

Teagasc, Agriculture and Food Development Authority – Ireland



Hungarian Example:

Peter is one of 200 advisors working with the Chamber of Agriculture. (This number is due to increase to 600 within the next year). He has been working as an agricultural advisor for seven years and is based in Budapest. His role is to assist 150 clients comply with agricultural regulations and scheme applications. Many of his clients are financial investors and share holders of farms and are not involved with day to day management for the farms on the ground. Due to the nature of Peter’s client and the service that he provides, he is not involved with technical issues. (There are other advisors working with the chamber who provide a technical advisory service). Peter is keen to pursue an advisory career that is involved with technical issues, increasing efficiencies of production on farms.

Swedish Example:

Åsa works in western Sweden and use to work as a tillage advisor. Currently she is involved with a programme "Lean Lantbruk" which offers education and coaching to agricultural companies that want to learn how to work according to the Lean principal. Lean is a corporate philosophy derived from Toyota. Lean is not about working faster or making big investments. Instead the investment lies in improvements and solutions to problems from its very core so that they will not return. Actively removing wastefulness will result in greater stability and in turn contributing to less waste. Lean amounts to long-term methods of removing wastefulness and solving issues from the ground up. There is a fee charged to the farms that participate in this programme.

Everybody working on the farm should be involved, such as the farm owner, manager, relatives working on the farm and all other farm workers. This programme is coming to the end of its operation. The participating farmers have found it very beneficial and will continue to implement its recommendations. There are also many farms not involved to date that would like to participate in this programme if it is operated again.

Irish Example:

The Irish advisors have similar roles and consequently one description will be given in this report for all four of them. The individual advisors client numbers range from 150 to 230 and the level of service provided to each farmer varies significantly. Individual one to one advice is provided through farm visits, office consultations and phone calls. Advice is given on technical, business and cross compliance issues. One of the four advisors specialises on tillage while the other three work with a range of farm enterprises including cattle, tillage sheep and dairy. Advisory contact to multiple farmers at one time is achieved through:

- a) Discussion groups
- b) Public meetings / seminars
- c) Farm walks / open days
- d) Newsletters
- e) Press articles and radio interviews

Teagasc, the organisation that provided this advisory service is also responsible for research and education. Due to this link, the advisors are involved with on farm / applied research. This research link improves the opinion farmers have of their advisor. Also, some of the four advisors have a significant role in educating young farmers on formal courses.

Conclusion:

While certain aspects of the various advisors jobs were similar, there were significant differences in the objectives and delivery of the service. These differences occurred both within and between member states. However, all the advisors that met on the field trips associated with the Leonardo "New Advisers" project had some aspect of their job in common with each other.

Report from the visit at “The Ministry of rural development research institute for animal breeding and nutrition at Herceghalom” and the “Centre for agricultural research”

on September 10th 2013.

Attendance: Hungarian Research Institute Directors: Dr. Istvan Egerszegi (Pigs) and Dr. Gyorgy Gabor (Bovine Reproduction). Teagasc advisors Eamonn Lynch; Edward Burgess; Tom O’Connell and Martin McCullough. Swedish advisor Åsa Kack and Hungarian advisor Peter.

Hungary’s location on central Europe’s largest river system, the richness of the soil and the climate makes the country well suited to agriculture. The climate is continental with hot summers and cold winters. Most rain falls in the spring and in the early summer. Recurrent floods and dry periods lead to a sometimes uneven agriculture production. Several times in recent years agriculture has been hit by drought.

Hungary’s most important natural resource is the fertile soil. The total land area is about 93 000 km². The structure of agriculture is characterized by small production units, with only about five acres in section. Corn and wheat are the dominant crops.

The livestock population is decreasing. There are 300-400 farms with dairy cows and there are about 40 000 goats. There are also poultry, pigs and sows.

62% of the land area in Hungary is devoted to Agriculture. Given the land type and climate 31% of the total land area is for cereal production. Hungarian people consume pig and pork meat primarily as a protein source. There are approximately 1 million sheep in Hungary. The majority of lamb is exported live to Italy as Hungarians only consume 300 grams per person per year. The lack of popularity of sheep meat in the country has a historic basis as the Ottoman Turks who ruled Hungary from 1541 to 1699 were very fond of sheep meat and as a result the native population turned against it. Most sheep farmers are located in the eastern part of Hungary, and the commercial flock are predominantly Marino. The ewe flock are generally owned by smaller farms owned by individuals. Consequently there is very little direct contact between the Research Institute and sheep farms. There is no infrastructure in place in Hungary to get information directly from the Research Institute onto these farmers. This is done via the breed organisations themselves.

There are 200,000 sows in the country primarily Large White. There are also 200,000 dairy cows and the majority would be US and Canadian Holsteins. The dairy farms are very intensive with large herds often owned by companies.

Agriculture’s share of 2010 GDP was 3,5%. Industry’s share was 31% and the service sector’s share was 65,4%. As regards employment, the agriculture sector is important. It accounted in 2010 for 334.000 employees, of whom 23% were women.

The Ministry of rural development research institute for animal breeding and nutrition

The predecessor to the Institute, ATK, was founded on the order of Ignác Darányi (Minister of Agriculture) in 1896. ATK carries out basic and applied research in breeding, nutrient, reproductive biology and genetics on domestic animal species and provides extension service activities. There are laboratories, an experimental slaughterhouse, a milk processing unit and a experimental farm at the Institute.

In addition to there basic research duties, research workers are working on various grant-supported projects. ATK consider extension service to be an important task. The publication of the only Hungarian scientific journal in the field of animal breeding is an important part of the Institutes publication activities. The research workers have close ties with the Association of animal breeders and take part in university education.

The Institute focuses research on animal nutrition and physiology in cattle; pigs; sheep and goats. Improving animal performance and output of indigenous breeds such as the Black Racka sheep and Hungarian Grey is also a key priority of the research. In contrast, the 200,000 dairy cows in the country are primarily US and Canadian Holsteins and research at the Institute is focussed on improving the reproductive performance of these cows. All dairy cows are bred using A.I. and the target calving

interval for these high yielding cow types is 400 days with an average number of lactations per cow in the national herd of 2.3. There is no research looking at alternative dairy breeds or cow type at present. This research institute provides a fertility service to these farms testing semen and blood tests for protein B (which will indicate if the animal is in calf). An animal breeding data base is established and is currently being developed into a Web based programme.

The results from the research work in spread to farmers and adviser when the researcher lectures on various courses and by international & national journals. They have two journals with some research results. There are one journal for big farms and one for small farms. They have close contact with 50 farmers with dairy production. The breeding association gives the farmers advice based on the results from the research work.

Centre for agricultural research at Martonvásár

The Centre for agricultural research primary aim is to play a fundamental role in promoting the common weal and in building the foundation for Hungarian future through valuable scientific achievements based on promising discovery research. The work of the research centre is aimed at carrying out basic and applied research and development in the field of agricultural sciences and at disseminating scientific and professional knowledge.

The scientific institutes making up the research centre are involved in research in the following fields: Veterinary science, Crop production, plant breeding and agronomy, Plant protection, Soil science and agricultural chemistry.

Financing

1/3 funded by the state

1/3 funded by various projects

1/3 funded by license fees

Hybrid corn

1956 they had managed to “make” there first corn hybrid. It is not possible to take seeds from the corn hybrid that the farmers harvest. The farmers have to by new seed every year. This hybrid corn was important, and still is, for the financing of the crop production activities. The income by license fees paid for the phytotron.

The Martonvásár phytotron

The Martonvásár phytotron, established in 1972, contains more than fifty plant growth units, in which the main environmental factors required for plant growth and development (temperature, light, humidity) can be programmed reproducibly at any time of the year, irrespective of the external weather conditions. The up-to-date Canadian climatic equipment installed during the reconstruction in 1990 is capable of simulating the weather in any part of the world, over a range of temperature stretching from -25°C to +45°C. The major technical parameters of the phytotron units are summarised in the table.

The climatic programmes, which can be adjusted reproducibly to suit the purposes of the experiment, allow the effects of environmental factors to be investigated in an exact manner. The phytotron can be used to study the effect of controlled factors on individual plant development, genetically determined traits and physiological processes. Knowledge on adequate changes in various traits facilitates selection for agronomically important characters such as cold and drought tolerance, thus making breeding more successful and shortening the time required to develop new varieties.

The Research Institute at Martonvásár became the biggest Agricultural Research Institute in Hungary two years ago where it carries out basic and applied research in the field of agricultural sciences. They work in co-operation with organisations involved in agriculture, animal health, the food industry, environment protection and sustainable farming.

The centre co-operates with other Research Institutes in Hungary and abroad. It actively promotes the integration of Hungarian research results from agriculture into Hungarian and international scientific life. In co-operation with various institutes of higher education it is actively involved in teaching, joint research

programmes, education and training. Our host for the afternoon was Ottó Veisz who is the head of the Cereal Resistance Breeding Department.

Mr. Veisz gave us a very comprehensive overview of the research institute and the overall structure of the arable industry in Hungary.

The Research Institute is owned by the Hungarian Academy of sciences. Even though this is a state owned Academy it is only partially funded by the state, the rest of the funding comes from the EU and Royalties for varieties.

Mr. Veisz explained the important role of Martonvásár in Technology Development in Hungary. He explained to us how they developed the first European hybrid maize in the 1950's. They have continued this tradition and still have 20 Ha dedicated to maize trials at the Institute. He explained to us that maize is the biggest crop in Hungary with 1.4 million hectares sown mainly for grain. The main aim of the maize research is to produce varieties which have early ripening traits, this helps with low moisture content and reduced drying costs.

As part of our visit in Phytotron department, Mr. Veisz brought us to a building on the site with 50 plant growth chambers. These are used to show effects of climate change, genomic research and testing stress tolerance. Air temperature, humidity, CO2 concentration, light intensity as well as moisture content can be controlled irrespective of external weather conditions. He explained to us that since 1972 more than 4000 experiments were carried out in Phytotron. The experiments resulted in the breeding of maize, cereal and sunflower varieties to name but a few of the achievements at Martonvásár.

TRANSFER OF KNOWLEDGE

A very important part of the work carried out by the Research Institute is transfer of its research to the relevant stakeholders. This is done mainly through publication of its research and every year a booklet on all varieties of maize, cereals and other crops is published and made available to farmers, merchants and other industry partners.

Farm visit to Mezofalvai Mezőgazdasági Termelő Es Szolgáltató

Wed 11 Sept, 2013

Attendees: Four advisors from Teagasc- Tom O'Connell, Eamonn Lynch, Eddie Burgess and Martin McCullough. All communication was through an interpreter



During our three hour visit a comprehensive briefing from the senior management team (Farm Production Manager, Directors of Dairy and Beef) was followed by a visit to some of the grazing cattle

- 80 Km south of Budapest
- 560 mm annual rain (350-1100 range)
- 9000 Ha (50% former size)
- 200 staff

It is a part of a large group of companies comprised of Hungarian investors including employees who hold a small share. It is the largest agricultural operation in the area with a wide range of operations. There is a small Forestry and Game Division employing three staff with hunting rights to 16000 Ha

Management indicated that the investors have an ongoing commitment to improving their operations and learning from colleagues both in Hungary and abroad. Our visit was the 10th such group from outside Hungary in 2013. Being part of a large group of companies economies of scale in procurement are possible, while still leaving flexibility for day – to – day farm management

Table 1 Farm Enterprises

Crop	Ha	Crop	Ha
Wheat and Barley	2,000	Alfalfa	400
Maize	2,000	Sunflower	600
Grass	2,000	Sugar Beet	250
Peas	700		
Rape	650	Forestry	400

Arable

Crop yields this year are below average due to drought (420 mm so far). Irrigation is not used on the farm. No rain fell between June 23 and Aug 26 and temperatures reached 40 degrees. Farm yields are 100-200 % of the national average. As in Ireland relative crop profitability varies greatly from year to year e.g. prices were much higher in 2012 than this year. Looking at ten year farm averages Maize and Rape are the first and second most profitable crops respectively

Management pointed out that their superior farm performance was due to physical infrastructure, professional advice and crop nutrition. In 2012 approximately 3.3 million euro was invested in a crop storage facility. The farm works closely with commercial firms, the Hungarian Chamber of Agriculture and Third level institutes. On-farm trials, newsletters, visits, etc are used to keep up to date, as well as general sources such as the Internet

Timely fertiliser use and crop rotation are vital to maintain production. Peas, though not the most profitable, give a lift in the following wheat (1t/ha, 1% Protein) compared to Maize

Being in a Nitrate Non-Sensitive Zone, 170 Kgs Organic and 170 Kgs Chemical Fertiliser are allowed per year. It was not possible to individual crop fertiliser programmes. Organic manure is used from neighbouring poultry units with reciprocal arrangements for straw supply. Absence of botulism was attributed to strict enforcement of regulations and carcass disposal

Table 2 Crop Yields

Crop	2013 Yield t/ha
Winter wheat	7.1
Winter barley	7.6
Rape	4.1
Sunflower	3.5
Maize (seed)	7-8 expected
Maize (silage)	33 – 35
Pea	2.2

Dairying

The Director of Dairy Operations gave a comprehensive PowerPoint presentation of the herd technical performance. There are three milkings per days and 48 cows are milked at one time, being housed all year. 50 people are employed in the dairy division plus additional staff at busy times. Annual farm production is all sold via contract at 3.75 % and 3.2 % Fat and Protein respectively

Significant upgrading of buildings is taking place and 1.6 million euro was spent in 2012. 900-950 cows can now be accommodated in comfort and this is felt to be a key factor in increasing herd performance along with breeding and nutrition. Only Holstein is used, sourcing semen from all over the world

Sexed semen use started in 2006 and 60 % of calves now born are female. Farm maize and alfalfa is supplemented with bought soya, sunflower and rape. Feed accounts for 65 % of total costs

The top performing cow has produced 135,000 litres to date

Two more cows will each reach a life time total of 100,000 litres later this year

An embryo transfer with Brazil, with up to 10,000 cows receiving embryos, came to a premature end in 2001 due to BSE. It is an area the company would like to develop.



Table 3 Milking operation

Milking cows	950
Milk yield - lit/cow	11,030 (8,000 in 1998)
Milk sales - lit/yr	7.7 – 8 million
Milk price - cent/lit	34
TBC	< 10,000 (Contract < 100,000)
SCC	<330,000 (Contract <400,000)
Lactation Number Av	2.9 (2.4 National Av)

Beef

In contrast to the dairy operation, beef cattle are grazing outside all year. Calving is also outside and no assistance is provided. Grazing blocks are much bigger than Ireland e.g. 200 cows + 170 calves / 65 Ha. Low annual rainfall restricts output and only one cut of silage early in the year is possible. All calves are tagged and photographed at birth. Animal traceability, as well as being a regulatory requirement is an aid against endemic cattle rustling

Hereford is the base breed, based on nucleus stock imported from North America during the early 1970s. Purebred Hereford bulls are sold annually to up to thirteen different countries

Charlois have been introduced to better match European consumer tastes. The current closure of the



Turkish market is having a big impact as this market delivers much higher returns (40%) than others such as Belarus

Table 4 Grazing stock

Type	Number
Cows	1250
Calves	1000
Heifers	550
Bulls	70
Ewes	300
Lambs/Hoggets	600

Sustainable Use Directive/ Regulatory Environment

Management strongly felt that Hungarian food production regulations at least matched EU standards, if not surpassing. They pointed out that strict pesticide use regulations have been in place since the 1970s. A three tier classification system is used for products. The farm has three fully qualified staff that can deal with all three classes. Both minimum and maximum use thresholds are in place and this was put forward as evidence of Hungary's superior regulatory regime

The farm is a certified producer of Kosher milk and this is only possible due to strict food production standards

Hungary is a significant honey producer and great importance is attached to this sector. It is regarded as an important environment indicator. Much debate centred on the role of Neonicotinoids and their ban. Their absence from Hungarian honey was felt to be an example of the success of the Hungarian regulations. Hungary voted against the EU ban

Summary

There is huge potential for increased food production given the current levels, land area, regulatory environment and willingness to learn. It was repeatedly emphasised that the farm was open to external visits and linkages as part of a continuous improvement programme. Great pride was expressed in Hungarian environmental regulations and their equivalence to EU standards at accession, if not surpassing.