# INFORMATION EXCHANGE AND FUTURE PLANS OF SLOVENIAN CATTLE FARMERS UNDER EU POLICIES

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**Abstract**

After accession to EU, farmers in the new-member states have to adjust to the EU agricultural policies and market. In Slovenia an analysis is made of the farm development plans and information exchange under quota and CAP. Three research questions were addressed: what information is received and how; how does the farmer prefer to receive information and what kind; how to make decisions to react to the new EU policies concerning farm management and future plans. These questions were linked to the base variables, being the farm and farmers' characteristics. As tool a questionnaire was distributed to dairy farmers. 1114 questionnaires, 22% of the distributed ones have been returned anonymously, implying that 11% of the dairy farmers' population is part of the analysis. It appeared that the research sample of farmers used represents the more future oriented farmers. As main factors describing the farm and farmers' characteristics were found farm size, age and number of other activities than dairy. Results show that nearly all farmers did receive information about some specific aspects of the quota system. Communication channels dealing with this administrative info and also with farm management advice are divers, but frequency of direct contact with advisors may be less than predicted. Results also indicate a very significant demand for info about strategic planning, farm management aspects and EU premium programs, especially about CAP general policies and milk premiums, and a considerable activity in farm planning. About 40% of farmers choose for keeping the farm business the same and 50% intend to develop the farm further. More than half of these developing farmers choose for specialisation and somewhat less than half for diversification. The interest in special local products and ecological farming is far below expectations. The request for information and advice and the routes to follow is very much associated with farm size, age of farmer and sometimes with the number of activities other than dairy on the farm.

**Keywords:** CAP, Slovenian cattle farmers, information, decisions, future plans

*JEL* classification: Q18

**Introduction**

The new Member States of the European Union have to deal with new policies and markets. In agriculture farmers may very well consider to change management on their farm and develop strategies for the future to adapt to the changing circumstances. Slovenia is one of the new members of the EU. In this country a project is started to guide farmers in adapting to EU regulations. This so called *Twinning Project* "Farming with quota and premiums" is a combined project of Slovenia and The Netherlands, financed by the EU.

The effect of general agricultural policies, including quota and premiums on macro developments in agriculture, like structural developments and price effects are well documented (Dillon, 1989; Kavčič & Erjavec, 2003; Jongeneel & Ponsioen, 2006), but effects on micro level, i.e. farm level, are less extensively mentioned. Previous studies from the 1980's in Western Europe concentrated on the effects of the quota system on farm management (Burrell, 1989) and on animal breeding indexes (Groen, 1989). Berentsen (1999) performed model calculations analysing the effect of two environmental and two market policies on micro level, c.q. on the farm. A recent study of Huba et al. (2006) explains the effect of the quota system on animal breeding indexes, when introducing this system in 2004 in the new EU countries. Several studies address the link between characteristics of the farm, like size of farm and intensity of farming, and the characteristics of the farmer, like education, preferences, management styles and plans (Bergevoet, 2005; Willock et al., 1999). However, the role of information and communication as a result of EU regulations and premiums is almost never recognized as a factor in decision making at farm level. In a summary of three workshops on this issue concerning the introduction of the new countries to the EU (Kuipers et al., 2006) was concluded that "The main emphasis is clearly on administrative aspects while extension efforts towards farmers are in an initial stage". Also "The awareness of the impact of quota and premiums on the dairy sector and especially on the individual farmers is still at a low level."

Therefore, the objective of this study is to quantify and present how the current situation of the Slovenian farmer in regard to information availability on the EU quota regulation and CAP premiums relates to decision making in farm management and strategy choices. Moreover, this study does analyse the link between the wish for information about EU regulations, the role of organisations and magazines in facilitating the flow of information and resulting opinions about farm management plans and strategies.

The communication process from EU to farm is summarised in Figure 1. The most important stakeholders in this process are EU (parliaments and committees), Slovenian Ministry of Agriculture, Forestry and Food, facilitators (extension workers, advisors, magazines, internet, etc.) and of course the farmers. However this study does not include the info flow of EU to the Ministry and the info flow of Ministry to the facilitators.
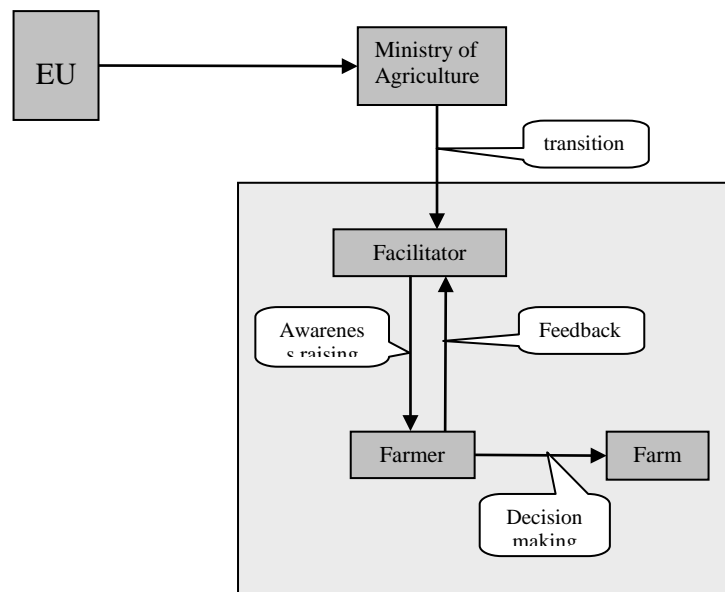


Figure 1. Communication scheme of transmitting EU information to farmers.

Three research questions were formulated:
- What information is received now and how is it received? In Figure 1 this question refers to the link facilitator → farmer and is indicated as "awareness raising".
- How does the farmer prefer to receive information in the future and what kind of information? In Figure 1 this question refers to the link farmer→ facilitator and is indicate d as "feed back".
- How to make decisions to react to new EU policies? (concerning farm management and strategy / future plans). In Figure 1 this question refers to the link farmer→ farm and is indicated by "decision making".

To give an answer to the objective of this study, these three questions were analysed. As tool a questionnaire was used.

To structure the results of this study we start with a description of the characteristics of the farms and the farmers included in the research sample. Later on this description will be used to check if there are any associations between the answers on the three research questions and these farm and farmers` characterisations. Secondly the current information structure and flow will be presented. Fourthly, the way the farmers like to receive information and what kind of information is described. Finally we tell how farmers think to make decisions in farm management and strategies to react to the EU quota system and premiums. This description of the study is completed with a discussion and conclusions.

**Material and methods**

*Data*

In winter of year 2005/2006 questionnaires with 27 main questions were sent to dairy farmers. Questions were asked about how farmers receive information about EU regulations, how and what kind of information they want to receive in future and how they think to react to the regulations in decision making on farm management and farm strategy. In this context the farmer is asked what kind of changes he considers to make at his farm in reaction to the quota regulation and general agricultural premiums. The questionnaires were distributed to 5,000 dairy farmers out of a total of 10,000 dairy farmers in Slovenia: milk haulers distributed the questionnaires to farmers in the cooperatives and the Twinning secretariat to farmers present at the organised meetings. 1,114 questionnaires were returned anonymously in a closed envelope resulting in a response of 22%. This group of farmers represented 11% of the total dairy farm population. The response was very satisfactorily considering the fact that Slovenian farmers are these days very reluctant to answer policy oriented questions. Nevertheless, we have to realise that the returned questionnaires are not fully a representative sample of the complete Slovenian dairy farm population. That is one of the reasons that we include in the results a detailed description of the farm and farmers' characteristics of the sample.

*Variables*

Some continuous variables were asked by marking classes. For the analysis the central value of each class is used to reconstruct the continuous variable again. This was done for instance for the variables Quota size and Farm size. If questions in the questionnaire were not answered the value is indicated as missing value and not counted in the analysis. In cases were options for answers were yes, no, perhaps or don't know, the values for this variable were reduced to a binomial variable: 1 is yes and 0 is not yes. An exception on this rule was introduced: for questions about "what info farmers like to receive about quota system and premiums", the missing values were included in "not yes". The reason behind this choice was that farmers systematically skipped answers that were not relevant to their situation (for instance farmers in flat areas skipped answer about premium for compensation payments).

*Statistical methods*

In order to check the answers in the questionnaire to be associated with the different types of farms and farmers, three variables were with STATISTIC 7 (2000), selected to serve as a quick characterization of the farm and farmer. The leading variable characterizing the farmer was: "age of farmer (years)"; the two leading variables characterizing the farm were: "farm size (ha of land)" and "number of other activities than dairy". Further on the term "main factors" is used for these leading variables.

**Results**

*Farm and farmers' characteristics of sample*

The average milk quota of the farms in this sample is 108 tons (Table 1), what is about twice the average amount of all dairy farms in Slovenia (Klopčič & Huba, 2006). The average farm size is 17.1 ha, which is high because this is 5.9 ha for all agricultural farms in Slovenia (SORS, 2002). 77% of the farmers in this sample participate in milk recording with an average production of 5,473 kg, while in practice 54% of farmers record the milk production of their herds with an average production of 4,896 kg (SORS, 2007). The percentage of 69% of farmers that expect to have a successor is very high and without doubt higher than in the total population. This description of farmer and farms in Table 1

indeed illustrates that the sample of farmers in this study does not represent all Slovenian dairy farms but the larger farms with higher productive herds and a high degree of succession.

Table 1. Characteristics of farms and farmers in the research.

| Variable (answer) | n | Mean | SD | Association with main factors [2]) | | | |
|---|---|---|---|---|---|---|---|
| *Characteristics of the farm* | | | | A | F | O[1]) | R[2] (%) |
| Milk quota for processing plant (1000 kg) | 1098 | 108.0 | 109.9 | | +*** | –*** | 56 |
| Number of dairy cows | 1101 | 19.0 | 15.5 | –** | +*** | –*** | 58 |
| Number of young stock (calves and heifers) | 1114 | 16.7 | 13.1 | –** | +*** | | 35 |
| Milk quota for direct sales (1000 kg) | 1114 | 3.2 | 7.2 | | +*** | | 7 |
| Average milk production per cow (kg/year) | 1059 | 5473 | 1504 | –*** | +*** | –*** | 30 |
| Agricultural land in use (ha) | 1114 | 17.1 | 10.6 | –*** | X[3]) | | 8 |
| Farms with hilly or mountainous land (0); farms with flat or less favorable land (1) | 1114 | 0.67 | 0.47 | | +** | +* | 2 |
| Farms with only Holstein Friesian cows (1); farms with other breeds (0) | 1109 | 0.13 | 0.34 | | +*** | –*** | 8 |
| Milk recording (no=0, yes=1) | 1067 | 0.77 | 0.42 | –* | +*** | | 15 |
| Number of fattening bulls | 1114 | 2.1 | 4.5 | | +*** | +*** | 13 |
| Number of pigs | 1114 | 4.7 | 26.4 | | +*** | +*** | 5 |
| Land for grain and maize (ha) | 1114 | 5.1 | 6.8 | +* | +*** | +*** | 33 |
| Forestry on the farm (no=0, yes=1) | 1114 | 0.25 | 0.43 | | | +*** | 11 |
| Number of other activities on the farm than dairy [1]) | 1114 | 2.0 | 1.5 | | | X | 0 |
| *Characteristics of the farmer* | | | | | | | |
| Non agricultural employment of farmer/wife (no=0, yes=1) | 1062 | 0.32 | 0.47 | –*** | –*** | | 7 |
| Successor on farm (no=0, yes=1) | 1092 | 0.69 | 0.46 | +*** | +*** | | 7 |
| Age of farmer (years) | 1100 | 51.5 | 12.7 | X | –*** | | 8 |
| Farmers with education at public school level (0); education higher than public school (1) | 1103 | 0.60 | 0.49 | –*** | +*** | –* | 19 |

[1]) In total there was a choice of 22 different activities (see Table 5). Choices related to dairy activities (calves, heifers, land for grain and maize, maize for silage) were not counted in this variable.

[2]) Associations are tested by a linear regression model: variable = constant + $b_1$ A + $b_2$ F + $b_3$ O. Constant is not presented. A is age of farmer; F is farm size; and O is number of other activities. Significance of b's is indicated by: * ($p<0.05$); ** ($p<0.01$); *** ($p<0.001$). The sign of b is indicated by – in case of negative association and + for a positive association.

[3]) X means not included in the model.

In general Table 1 shows high associations of the farm characteristics with the main factors as it should be which results in rather high coefficients of determination ($R^2$) for the various characteristics. An interesting fact is that all farmers` characteristics are also highly determined by the main factors

age of farmer and farm size, but not by other activities than dairy. Non agricultural employment exists especially for younger farmers at smaller farms. However, in general older farmers have smaller farms. Successors exist for older farmers at larger farms, and education is higher for younger farmers at larger farms.

*What information is received and how*

More than 90% of farmers express that they received information about certain aspects of the quota system (Table 2). Larger farms are better informed than smaller farms.

In this administrative field the Farmers' cooperatives, Extension service and Ministry Agencies are the main facilitators in transmitting information (38-59% of farmers utilize each of these routes).

Info and advice about daily farm management practices come mostly from agricultural papers and magazines (71% of farmers) and from the Extension service (69%). The agricultural papers are mostly red by the older farmers on the larger farms. Internet is used on the larger farms, but still on a limited scale (17%). The Extension service is somewhat more active towards the slightly younger farmer with more activities on the farm. Feed companies and the University are mainly focussed on the larger farms.

The appreciation expressed by farmers (score 1-5) is highest for the veterinary, extension service and farmers' cooperatives (score 3 and higher) and lowest for the umbrella organisations (Agricultural Chamber, Cooperative Union), dairy industry and private consultants (score 2.3 and lower). The appreciation for the extension service comes mostly from the smaller farms with more often other activities than dairy on the farm. For the umbrella organisations the same tendency in appreciation seems to exist. On the contrary, Feed companies, University and breeding organisations are more appreciated by the larger farms, what corresponds with the focus of Feed companies and University as mentioned before.

The intensity of exchange of advice between adviser and farmer is on average less than 2-times per year with a large variation. This intensity is higher at larger farms. The communication channel in Slovenia is more extensively described by Klopčič et al. (2005).

*Preference for receiving info and what kind*

Most farmers (68%) prefer to receive advice orally and in the second place by agricultural journal (54%), which preference is not affected by the main factors (Table 3). Half of the farmers like to participate in a study group, which interest is increasing with farm size. The preference for internet is low (22%) and highly associated with larger farms and as expected with younger farmers. Radio and television are preferred by the older farmer.

More than 40% of the farmers indicate that they are prepared to pay for good expert advice. Especially farmers of larger farms say so.

About 40% of the farmers like to receive information about the quota system, with the highest interest for rules of quota transfer between farms and from the national reserve. Farmers of larger farms are especially interested in exchange and transfer of quota.

Table 2. What information is received and how it is received, and associations with farm and farmers' characteristics.

| Variable (answer) | n | Mean | SD | Association with main factors [1] | | | |
|---|---|---|---|---|---|---|---|
| *Questions concerning what info is received now* | | | | A | F | O | $R^2$ (%) |
| Do you know your butterfat reference? (no=0, yes=1) | 1051 | 0.97 | 0.17 | | +*** | | 1 |
| **Q5a:** Did you receive explanatory info about quota system? (no=0, yes=1) | 1096 | 0.94 | 0.24 | | | | 0 |
| Do you receive sufficient info about milk deliveries during the year compared to reference quantity? (no=0, yes=1) | 1079 | 0.91 | 0.29 | | +*** | | 1 |
| *Questions concerning how and from whom info is received* | | | | | | | |
| If **Q5a yes**: from whom you received explanatory info? (no=0, yes=1) | | | | | | | |
|   1 Ministry of agriculture and agencies | 1001 | 0.38 | 0.49 | | +* | | 1 |
|   2 Extension Service | 1001 | 0.40 | 0.49 | –* | | | 1 |
|   3 Agricultural chamber | 1001 | 0.10 | 0.30 | | +*** | | 2 |
|   4 Farmers Co-operative | 1001 | 0.59 | 0.49 | | | | 0 |
|   5 Co-operative Union | 1001 | 0.01 | 0.09 | | | | 0 |
|   6 Farmers Union/Syndicate | 1001 | 0.02 | 0.13 | | +* | | 1 |
|   7 Dairy industry or milk processor | 1001 | 0.09 | 0.29 | | | +** | 1 |
|   8 Other organizations | 1001 | 0.06 | 0.24 | | +** | | 1 |
| From whom do you receive info/advice about daily farm management practices? (no=0, yes=1) | | | | | | | |
|   1 Extension Service | 1114 | 0.69 | 0.46 | –* | | +* | 1 |
|   2 Feed Company | 1114 | 0.15 | 0.36 | | +*** | | 5 |
|   3 University | 1114 | 0.06 | 0.24 | | +*** | | 3 |
|   4 Private consultant | 1114 | 0.02 | 0.15 | | +* | | 1 |
|   5 Farmers Co-operative / Co-operative union | 1114 | 0.28 | 0.45 | | +* | | 1 |
|   6 Veterinary | 1114 | 0.31 | 0.46 | | | | 0 |
|   7 Neighbors and friends | 1114 | 0.33 | 0.47 | –* | +* | | 1 |
|   8 Agricultural papers and magazines | 1114 | 0.71 | 0.45 | +** | +*** | | 4 |
|   9 Radio and TV | 1114 | 0.33 | 0.47 | –* | | +** | 2 |
|   10 Internet | 1114 | 0.17 | 0.37 | | +*** | | 7 |
|   11 Other | 1114 | 0.02 | 0.15 | | | | 0 |
|   12 No advice | 1114 | 0.04 | 0.20 | | –* | | 1 |
| Appreciation for advice (score: 1- 5; 1=low; 5=high) | | | | | | | |
|   1 Extension Service | 1055 | 3.23 | 1.16 | | –*** | +* | 2 |
|   2 Feed Company | 866 | 2.71 | 1.21 | | +*** | | 8 |
|   3 University | 759 | 2.55 | 1.17 | | +*** | | 3 |
|   4 Private consultant | 567 | 2.29 | 1.29 | | | | 0 |
|   5 Farmers Co-operative | 960 | 3.06 | 1.14 | | | +* | 1 |
|   6 Veterinary | 923 | 3.37 | 1.16 | +* | | | 1 |
|   7 Co-operative union | 779 | 1.97 | 0.97 | | –* | +* | 2 |
|   8 Agricultural chamber | 939 | 2.05 | 1.00 | | –* | +** | 2 |
|   9 Dairy industry | 878 | 2.02 | 1.14 | | | +*** | 2 |
|   10 Breeding organization | 807 | 2.77 | 1.18 | | +*** | +** | 3 |
|   11 Ministry of agriculture and agencies | 905 | 2.49 | 1.11 | | | | 1 |
| How often do you receive advice from your adviser on your farm management and plans per year? (≤ 1 time/year, score=0.5; 2–3 times/year, score=2; ≥ 3-times/year, score=5) | 1058 | 1.90 | 1.67 | | +** | | 1 |

[1]) Associations are tested by a linear regression model: variable = constant + $b_1$ A + $b_2$ F + $b_3$ O.
Constant is not presented. A is age of farmer; F is farm size; and O is number of other activities.
Significance of b's is indicated by: * ($p<0.05$); ** ($p<0.01$); *** ($p<0.001$).
The sign of b is indicated by – in case of negative association and + for a positive association.

Table 3. How does farmer prefer to receive info in future and what kind of info, and associations with farm and farmers' characteristics.

| Variable (answer) | n | Mean[1]) | SD | Associations with main factors [2]) | | | |
|---|---|---|---|---|---|---|---|
| Questions concerning how farmer prefers to receive info in future | | | | A | F | O | R$^2$ (%) |
| How do you prefer to receive info and advice? (no=0, yes=1) | | | | | | | |
|    1 Orally by advisor | 1093 | 0.68 | 0.46 | | | | 1 |
|    2 By participating in study group | 1093 | 0.50 | 0.50 | | +** | | 1 |
|    3 On Radio / TV | 1093 | 0.24 | 0.42 | +* | | | 1 |
|    4 In agricultural magazine | 1093 | 0.54 | 0.50 | | | | 0 |
|    5 On paper in form of leaflet | 1093 | 0.35 | 0.48 | –** | | | 1 |
|    6 By internet | 1093 | 0.22 | 0.41 | –** | +*** | | 6 |
| Would you be prepared to pay for good prepared expert advice? (no=0, yes=1) | 1078 | 0.44 | 0.50 | | +*** | | 4 |
| Questions concerning what kind of info farmer likes to receive | | | | | | | |
| Would you like more explanatory info about? (no=0, yes=1) | | | | | | | |
|    1 Reference quantities of milk | 1114 | 0.43 | 0.50 | | | | 0 |
|    2 Butterfat reference | 1114 | 0.34 | 0.47 | | | | 0 |
|    3 Exchange of quota | 1114 | 0.42 | 0.49 | | +* | | 2 |
|    4 Possibilities of quota transfer | 1114 | 0.45 | 0.50 | | +** | | 2 |
| Would you like more explanatory info about? (no=0, yes=1) | | | | | | | |
|    1 Milk premiums | 1114 | 0.72 | 0.45 | | | | 0 |
|    2 Suckler cow premiums | 1114 | 0.20 | 0.40 | | –* | +*** | 7 |
|    3 Beef premiums | 1114 | 0.32 | 0.47 | | | +** | 6 |
|    4 Agricultural environment measures | 1114 | 0.25 | 0.44 | | | | 0 |
|    5 Extensification premium | 1114 | 0.30 | 0.46 | | | | 1 |
|    6 Early retirement program | 1114 | 0.31 | 0.46 | | +* | | 1 |
|    7 Compensation payment for regions | 1114 | 0.39 | 0.49 | | | | 1 |
|    8 General EU agricultural policies: CAP | 1114 | 0.62 | 0.49 | | +** | | 1 |
| Do you like advice in adapting daily management of farm to the quota amount you have? (no=0, yes=1) | 1052 | 0.49 | 0.50 | –* | +*** | | 2 |
| Do you like to receive assistance in planning a future plan/strategy for you and your farm? (no=0, yes=1) | 992 | 0.65 | 0.48 | –* | +*** | | 7 |

[1]) For the questions 6 and 7 in this table concerning *"What kind of info farmer likes to receive"*, the ″no answers″ are included in the analysis as ″no interest″. The reason is that the conviction exists that farmers had the tendency not to fill in these particular questions, when not interested.

[2]) Associations are tested by a linear regression model: variable = constant + $b_1$ A + $b_2$ F + $b_3$ O. Constant is not presented. A is age of farmer; F is farm size; and O is number of other activities. Significance of b's is indicated by: * ($p<0.05$); ** ($p<0.01$); *** ($p<0.001$). The sign of b is indicated by – in case of negative association and + for a positive association.

The degree of interest for information about the various EU-premiums in Table 3 is quite different: a very high interest exists for the milk premium and CAP general policies (72 and 62%) and an average interest for the more specific premiums (20-39% of farmers). The interest for suckler cow premium, early retirement premium and CAP general policies is associated with farm size (as well negative as positive associations) and for the suckler cow and beef premium, as can be expected, also highly associated with number of other activities than dairy on the farm.

A high interest exists for advice on daily farm management under a quota system (49%) and an even higher for assistance in strategic planning (65%). The interest is significantly associated with larger farms and younger age.

*Plan making to react on EU policies*

When farmers may exceed quota some time in the near future, 68 % of them plan to change the management of the farm to adjust to the available quota (Table 4). Nearly half of farmers which say so consider feeding less concentrates to adjust the milk volume. As second option the sale of one or more cows is considered (38%). This option is mostly chosen by the specialized larger dairy farms.

Table 4. How to make decisions to react on new EU policies, and associations with farm and farmers' characteristics.

| Variable (answer) | | | | Associations with main factors [1] | | | |
|---|---|---|---|---|---|---|---|
| *Questions about how to make decisions on management of the farm* | n | Mean | SD | A | F | O | $R^2$ (%) |
| In case of exceeding quota: do you plan to change daily management of farm to adapt to quota? (no=0, yes=1) | 723 | 0.68 | 0.47 | | | | 0 |
| If yes: 1 By selling some cows? | 491 | 0.38 | 0.49 | | +* | –** | 2 |
| 2 By feeding less concentrates? | 491 | 0.50 | 0.50 | | | | 0 |
| 3 By using less Nitrogen fertilizer? | 491 | 0.23 | 0.42 | | | | 0 |
| Do you consider using more beef bulls on your cows under a quota system to improve quality of calves? (no=0, yes=1) | 1085 | 0.47 | 0.50 | | | +** | 1 |
| *Questions about how to make decisions on farm strategy/future plans* | | | | | | | |
| **Q11:** What are your plans for the future of your farm? (no=0, yes=1) | | | | | | | |
| 1 I do not think about future plans | 1114 | 0.06 | 0.23 | +*** | –*** | | 3 |
| 2 I consider to stop farming | 1114 | 0.01 | 0.11 | +* | | –* | 2 |
| 3 I keep farm as a hobby | 1114 | 0.03 | 0.16 | | –** | | 1 |
| 4 I consider to keep farm as it is now | 1114 | 0.41 | 0.49 | +* | –*** | | 7 |
| 5 I consider to develop the farm further | 1114 | 0.49 | 0.50 | –*** | +*** | | 18 |
| **If Q11-5** is yes, would you | | | | | | | |
| 1 Develop the farm by increasing number of dairy cows ? | 296 | 0.56 | 0.50 | | +** | | 1 |
| 2 Develop the farm by starting or Enlarging another branch? | 256 | 0.47 | 0.50 | | | | 0 |
| Do you consider to go in future into ecological or bio-dynamic farming? (no=0, yes=1) | 663 | 0.04 | 0.19 | | | | 0 |
| Do you plan to invest in new barn or parlour? (no=0, yes=1) | 787 | 0.63 | 0.48 | –* | *** | | 9 |
| Do you consider to look for part-time off farm work ? (no=0, yes=1) | 656 | 0.06 | 0.22 | –* | –** | | 2 |

[1]) Associations are tested by a linear regression model: variable = constant + $b_1$ A + $b_2$ F + $b_3$ O. Constant is not presented. A is age of farmer; F is farm size; and O is number of other activities.
Significance of b's is indicated by: * ($p<0.05$); ** ($p<0.01$); *** ($p<0.001$).
The sign of b is indicated by – in case of negative association and + for a positive association.

Nearly half of the farmers also consider improving the quality of calves by using beef bulls on the less productive part of the cows, when the quota system is limiting the production volume of the herd. This management practice is associated with farms with more other activities on the farm than dairy.

Indicators for change are the intention of farmers to develop the farm further and /or to build a new housing for the cattle and/or to choose for ecological farming. Six % of the farmers (especially older farms at smaller farms) do not think about future plans. One % of the farmers indicated to stop farming and 3% will keep the farm as a hobby. This 1 % is most likely an underestimate because it is known that some farmers who planned to stop farming did not return the questionnaire. Some farmers (41%) want to keep the farm as it is now, especially older farmers at smaller farms.  In the sample 49% of the farmers plan to develop the farm further, representing the larger farms with younger farmers.

Only 4% of the farmers do consider going into ecological or bio-dynamic farming, while 6% think about part-time work outside the farm. This is less than expected. The positive expectation was based on data from Slovenia (MAFF, 2007) and on the situation in neighbouring country Austria, which show a much higher potential for local special products and agro-tourism (BMLFUW, 2007). Looking for part-time off farm work is associated with smaller farms and younger farmers. Many farmers intend to invest in new buildings (63%). This is associated with the larger farms with somewhat younger farmers.

Of the group of farmers that indicated to develop the farm further, 56% plan to increase the cow herd, which is a form of specialisation in the dairy profession, and 47% want to start or enlarge with some kind of diversification (other activities) on the farm. Some farmers intend to follow both routes.

As can be expected, farmers who want to develop through specialisation and/or diversification have a significant higher request for advice than farmers who opt for keeping the farm the same:  for daily management advice respectively 67 versus 37% and for future strategy planning 75 versus 49%. Also the interest for participation in study groups and the demand for oral advice are somewhat higher (6-11%) for the developing farms. The use of internet as info tool is remarkably increasing when shifting from the group of farmers keeping the farm the same (14 % of farmers mention use of internet), to the specialised group (28%) to the group of farmers, which look for diversity (37%). The same trend exists for readiness to pay for good advice: respectively 37, 47 and 54% of farmers.

Table 5 shows that starting or extending other activities is mostly related to dairy activities: calves were mentioned by 30 % of farmers, heifers 37%, grassland and pasture 23%, and land for grain and maize 22%. For non dairy activities most interest exists for other animal activities as fattening bulls (38% of farmers) and in a lesser extent suckler cows (11%) and pigs (7%). A very low ambition exists for expanding or starting poultry (2% of farmers) or a sheep or goats herd (both 1%). Produce from the arable field (15% of farmers) and forestry (10%) also score reasonable good. The interest to go into agro-tourism and local special products is rather low (respectively 2 and 1% of farmers).

Most of the mentioned "other activities" are logically highly significant associated with the main factor number of other activities, but interesting enough not with farm size and age of farmer, except for suckler cows and poultry, which tend to be kept on smaller farms.

Table 5. Other activities than dairy and associations with farm and farmers' characteristics.

| Other activities than dairy on farms - question 2 in Table 1 (no=0, yes=1; n=1114) | | | Farmers that indicate (11a.5 is yes in Table 4) to start or extend one or more activities (no=0, yes=1; n=541) | | | | | |
|---|---|---|---|---|---|---|---|---|
| | | | | | Association with main factors [1] | | | |
| | Mean | SD | Mean | SD | A | F | O | $R^2$ (%) |
| 1 Suckler cows | 0.11 | 0.31 | 0.11 | 0.31 | | –* | +*** | 5 |
| 2 Fattening bulls | 0.38 | 0.49 | 0.38 | 0.49 | | | +*** | 7 |
| 3 Calves | 0.75 | 0.43 | 0.30 | 0.46 | | –* | | 1 |
| 4 Heifers | 0.81 | 0.39 | 0.37 | 0.48 | +* | | | 1 |
| 5 Pigs | 0.38 | 0.48 | 0.07 | 0.26 | | | +*** | 4 |
| 6 Sheep | 0.02 | 0.14 | 0.01 | 0.07 | | | +* | 2 |
| 7 Goats | 0.01 | 0.10 | 0.01 | 0.10 | | | | 0 |
| 8 Poultry [2] | | | 0.02 | 0.13 | | –* | | 1 |
| 9 Grassland and pasture [2] | | | 0.23 | 0.42 | | | +* | 1 |
| 10 Land for grain and maize | 0.58 | 0.49 | 0.22 | 0.41 | | +* | | 1 |
| 11 Produce of the arable field | 0.33 | 0.47 | 0.15 | 0.36 | | | +** | 3 |
| 12 Maize for silage [2] | 0.77 | 0.42 | | | | | | |
| 13 Other cultures | 0.12 | 0.32 | 0.03 | 0.18 | | | | 1 |
| 14 Horticulture | 0.03 | 0.16 | 0.03 | 0.18 | | | +* | 2 |
| 15 Fruit garden / orchard | 0.06 | 0.24 | 0.02 | 0.15 | +* | | | 1 |
| 16 Vineyard | 0.17 | 0.38 | 0.02 | 0.14 | | | +*** | 4 |
| 17 Horses | 0.07 | 0.26 | 0.03 | 0.16 | | | +** | 2 |
| 18 Agro tourism | 0.01 | 0.08 | 0.02 | 0.15 | | | | 0 |
| 19 "Open doors" farm | 0.00 | 0.07 | 0.02 | 0.14 | | | | 0 |
| 20 Production of special products | 0.01 | 0.03 | 0.01 | 0.10 | | | | 1 |
| 21 Cottage industry | 0.00 | 0.01 | 0.02 | 0.13 | | | | 1 |
| 22 Forestry | 0.25 | 0.43 | 0.10 | 0.30 | | | | 0 |

[1]) Associations are tested by a linear regression model: variable = constant + $b_1$ A + $b_2$ F + $b_3$ O. Constant is not presented. A is age of farmer; F is farm size; and O is number of other activities. Significance of b's is indicated by: * ($p<0.05$); ** ($p<0.01$); *** ($p<0.001$). The sign of b is indicated by –in case of negative association and + for a positive association.

[2]) For these activities some of data are not listed, because this data was not gathered.


## Conclusions

- The farmers studied reflect the more future oriented entrepreneurs
- More than 90% of farmers did receive information about some different aspects of the quota system.
- Extension Service and Farmers´ cooperatives act more towards all farmers, while Feed companies, University and Breeding Organisations work with the larger farms.
- Farmers feel most comfortable with personal advice.
- Almost half of the respondents, mostly at larger farms, say to be ready to pay for good advice.
- Farmers have a high interest in information about EU premium programs, especially CAP general policies and milk premiums, but also in advice about strategic plans.
- About 40% of the farmers intend to keep the farm more or less the same in the near future, while about 50% want to develop their farm business further. This last group concerns younger farmers at the larger farms. More than half of these developing farmers look for specialisation (56%) and less than half for diversification (47%).
- Developing farmers can be seen as the client group with most potential for info and advice. Maybe this is even more the case for farmers that plan to diversify.

- The high interest in info and advice asks for an intensive communication with farmers by utilizing the right channels to do so. Farmers' do indicate preferred channels of communication. For instance, the larger farms choose for other facilitators than the smaller ones. The set-up of study groups as another tool for communication may be an opportunity.
- The high interest for information and advice in Slovenia is a solid base for supporting the development of plans and strategies to adapt to the EU-environment and for the creation of opportunities for the future.

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