LMC INTERNATIONAL

# EVALUATION OF MEASURES APPLIED UNDER THE COMMON AGRICULTURAL POLICY TO THE PROTEIN CROP SECTOR

***Executive Summary***

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# Executive Summary

This report presents an evaluation of the impacts of measures of the Common Agricultural Policy (CAP) applied in the protein crop sector. It focuses on the impact of the measures introduced in Council Regulation 1782/2003. To capture the effects of the policy changes introduced in 2003, the report takes into account measures applied previously under Art. 4(3) of Council Regulation 1251/99.

This evaluation covers the period after the reform (2004-2008), but the period before the reform is also considered (2000-2003).

## E.1 CAP measures applied to the protein crop sector

Measures specifically focused on protein crops were introduced in 1978 through Council Reg. (EEC) No. 1119/78. Changes to these measures were made under the 1992 MacSharry reform and Agenda 2000[1].

The 2003 reform[2] introduced the following measures specifically targeted to protein crops. For the EU-15 MS, aid received under Agenda 2000 was partially integrated into the Single Payment Scheme. At the same time, a special aid of €55.57 per hectare was introduced, subject to a Maximum Guaranteed Area for payments[3].

The EU-12 MS were allowed to make Complementary National Direct Payments, on a coupled or decoupled basis, for specific crops, including protein crops, within national budgetary envelopes or co-financed during the first three years from rural development funds.

## E.2 Budgetary costs of CAP measures in the protein crop sector

Average annual budgetary costs of coupled aids in the protein crop sector were €494 million in 2000-2004. For MS applying the SPS, coupled aids fell to €58 million in 2005-2008. Average annual coupled aids under the CNDP scheme were €2 million. The budgetary costs of support were switched towards decoupled aids, which have no link to protein crop production.

## E.3 Protein crop area and production

Protein crops covered only 1.5% of total EU COP crop areas in 2006-2008. Total EU protein crop areas averaged 1.36 million hectares in 2000-2003, and 1.17 million in 2004-2008. In 2006-2008, after full implementation of the SPS, the average total area was 1.02 million hectares (Table E.1).

Protein crop yields are volatile, varying from 2.5 to 3.3 tonnes per hectare in 2000-2008. EU-27 protein crop output averaged almost 4.3 million tonnes per year in 2000-2003 (27% of global output). It declined to 3.4 million tonnes per year (20% of world output) in 2004-2008.

## E.4 Protein crop supply-demand balance

**Table E.1: EU-27 Protein crop supply-demand balance, 2000-2008** ('000 tonnes)

| | Demand | | | | Foreign Trade | | | |
|---|---|---|---|---|---|---|---|---|
| | Feed & | Food | Processing | Total | Export | Imports | Net | Producti |
| 2000- | 3,938 | 676 | 85 | 4,699 | 1,248 | 1,677 | -429 | 4,269 |
| 2004- | 3,146 | 650 | 81 | 3,878 | 959 | 1,440 | -481 | 3,397 |
| % | -20.1% | - | -4.4% | -17.5% | - | - | 12.0% | -20.4% |

Sources: FAO, COMEXT

[1] Council Regulations (EEC) No 1765/92 and No 1766/92, and Council Regulation (EC) No 1251/1999
[2] See Council Regulation (EC) No 1782/2003.
[3] The MGA was 1.4 million hectares before the first enlargement in 2004. It rose to 1.648 million ha. in 2006.

Table E.1 summarises the EU-27 protein crop supply-demand balance. Feed and other uses (including seed and waste) accounted in 2004-2008 for over 80% of total demand; food uses for 17%; 2% is processed. Every segment shrank after 2003, feed uses faster than others.

Foreign trade is two-way. Third country imports are mainly of protein crops for feed; exports are mostly of field beans and peas for food. Both imports and exports have fallen since 2003.

## E.5 Prices

Weekly price quotations for protein crops are limited. Field peas are the only crop with broad EU and world price series. Between 2000/01 and 2006/07, field pea prices in Ardennes (France) and Rotterdam traded between €140 and €175 per tonne. They rose above €250 in 2007/08, but fell back in 2008/09. There is a close link between world prices (Canadian prices) and EU quotations, the difference being freight costs from Saskatchewan to the EU.

## E.6 Tools and methodology

The analysis relied on six main sources of data: FADN, Eurostat, FAO, national and regional databases, questionnaires (to farmers and feed companies) and interviews in the sector, and a case study of the Canadian protein crop sector. Field work was conducted in six MS: France, Germany, Hungary, Poland, Spain and the UK.

The main econometric tool used in the analysis is linear regression models. They are applied across regions or MS on a cross-sectional basis, but the results lack statistical significance. Time series analysis of protein crop prices has much greater statistical significance.

Simulations are also employed, e.g., to compare incomes per hectare (including rotational benefits) from protein crops and other COP crops with changes in planted areas, and analyse the impact of changes in the spatial distribution of protein crop areas on EU yields and output.

The models used are simple models with single independent variables. In each case, all other factors that affect protein crop output are assumed to be unchanged, a strong assumption in view of the changes in world market prices for COP crops after the 2003 reform.

## E.7 Limitations of the data

Since the data used to analyse gross margins are drawn from different sources, the raw data had to be adapted to yield common definitions of direct costs, revenues and gross margins in every region analysed; this may limit the validity of conclusions.

FADN data are only available until 2006, and for new MS are available only since accession. Regional FADN data often relate to regions larger than those analysed within MS. Also, FADN data prepare accounts by holding, not by crop; so one cannot deduce direct costs and gross margins for protein crops alone

FAO end-use data have not been updated since 2004. Therefore, we have made estimates, based on historical trends, for more recent years.

Trade data from COMEXT caused some concern; intra-EU trade in protein crops often did not balance between exporting and importing MS; also, analysis of foreign trade in sweet lupins suggested that the correct category was wrongly labelled.

Comprehensive price series do not exist for all protein crops. Most sweet lupin output is used on-farm, and thus by-passes markets. Field bean price data are often available only in the post-harvest marketing period. For field peas, price data are much better.

A final data limitation relates to the treatment of externalities (via nitrogen fixation and increased cereal crop yields in crop rotations). There is a modest degree of difference of opinion in the scientific literature about the magnitude of these benefits.

## E.8 Evaluation Question 1 (EQ1) Impact of the 2003 measures on protein crop production

EQ1 To what extent have the CAP measures applicable to the protein crop sector affected the output of protein crops, with regard to the choice of crop, area; yield; prices paid to producers; geographical distribution?

To what extent has the special aid for protein crops been an incentive to increase the production of these crops? (Special attention will be paid to impacts linked to crop rotation.)

### *E8.1 Effects of the 2003 reform on the area planted to protein crops*

The EU-27 protein crop sector contracted following the 2003 reform. However, the fortunes of different crops varied widely. The area under field peas, the main protein crop, was 24% lower in 2004-2008 than it was in 2000-2003, but areas of field beans and sweet lupins rose 8% and 18% over the same period. Coefficients of variation of yields reveal that the last two crops had less yield risk than field peas in 2000-2007, increasing their appeal to risk-averse farmers.

The 2003 protein crop measures provide no reason to believe that, *ceteris paribus,* there would have been a sizeable change in protein crop areas after the reform. This is because the 2003 measures replaced coupled area payments linked to reference yields in each EU-15 MS with a uniform special aid of €55.57 per hectare for protein crops, where it has been stated that €55.57 was calculated as the weighted average difference under the previous measures between coupled area payments on protein crops and on "other cereals" in the EU-15 MS. The coupled payments previously paid on cereal crops were replaced by decoupled aids under the SPS, applied in full to protein crop producers.

This suggests that average EU-15 protein crop producers would have experienced no change in their full incomes per hectare, *ceteris paribus*, following the reform. Thus, the 2003 reform would not have been expected, on average, to have changed protein crop areas in the EU-15.

Malta adopted the SPS on accession; the other ten adopted the SAPS. Only Lithuania applied a specific CNDP payment on protein crops alone. Several others included protein crops within a broader CNDP payment for a number of arable crops. The measures in the protein crop sector would again be expected to have had a very minor impact, *ceteris paribus*, on planted areas.

The major determinants of the changes in planted areas that followed the reform lay outside the measures. They included world market arable crop price changes; damage from the *aphanomyces* fungus in France; a ban on meat and bone meal use in most feed applications from 2001 onwards, which removed a major complement for protein crops in feed; CAP energy crop measures stimulating rapeseed farming. This not only harmed demand for protein crops in feed, by boosting supplies of an alternative – higher protein – feed (rapeseed meal) for compounders, but also by replacing protein crops in cereal farm rotations.

We concluded that the decline in protein crop areas is not attributable to the 2003 protein crop measures.

Analysis of the impact of CAP energy crop measures and ending special aids for grain legumes revealed that neither explained the changes in protein crop areas satisfactorily. Also, the Maximum Guaranteed Area established in the reform was never reached, and so this had no impact on protein crop areas.

### E8.2 Effects of the 2003 reform on the geographical distribution of output

Changes in protein crop areas differed between the EU-15 and EU-12, comparing 2000-2003 with 2004-2008. In the EU-15, field pea and sweet lupin areas fell substantially, but field bean areas increased. In the EU-12, field pea and field bean areas declined, while the sweet lupin areas almost trebled.

The application of a uniform coupled aid of €55.57 per hectare from 2004 would have been expected to have had a minor impact upon the geographical distribution of protein crop areas within the EU-15. It would have created an incentive to expand such areas in regions with below-average reference yields (as the uniform special aid was higher than the difference between protein crop and cereal coupled aids before the reform) and some incentive to reduce protein crop areas in regions of above-average reference yields.

In only six of the EU-15 MS was the net effect of the 2003 measures on the difference between coupled revenues on protein crops and those on other COP crops as a result of the 2003 reform in excess of €10 per hectare. These were all MS with low yields.

The analysis provided weak, not statistically significant, evidence that there was a slight change in the geographical distribution of output towards lower yielding regions.

### E8.3 Effects of the 2003 reform on protein crop yields

Yields for the protein crop sector as a whole declined after 2003. Field peas suffered the largest decline, followed by sweet lupins; field bean yields remained fairly stable. Part of this decline can be explained by external factors, such as the incidence of *aphanomyces*. There was no evidence from the farmers' survey that they had reduced their input use after the reform.

The decline in the average protein crop yields might also be explained by a shift in the location of plantings away from regions with high reference yields to others with low yields, but results of the regression analysis used to test this hypothesis were not statistically significant.

### E8.4 Effects of the 2003 reform on protein crop output

In 2000-2003, EU-27 protein crop output was stable around 4.3 million tonnes but it fell to 3.6 million tonnes in 2004-2007. Field peas led production down, but the output of both field beans and sweet lupins rose.

The lack of clear evidence linking measures in the 2003 reform to the declines in areas and yields means that we cannot establish a causal relationship between the effects of the reform and changes in protein crop output.

### E8.5 Effects of the 2003 reform on the structure of protein crop farming

The FADN database reveals that protein crops tend to be cultivated mainly on the largest holdings. On average, only a small fraction, typically less of 10%, of total farm area is devoted to these crops. There is no evidence that the 2003 protein crop measures led to a change in this structure. However, FADN data are not available after 2006; thus they included only one year in which the SPS was fully implemented in all EU-15 MS.

### E8.6 Effects of the 2003 reform on protein crop prices

Internal prices of protein crops track world market quotations, because of minimal import tariffs on protein crops. Most output of all three crops is used for feed, but for field peas and beans, a minority of output earns premium prices in food uses. These price dynamics pre-dated the 2003 reform and were not affected by it.

## E9 EQ2: Impact on the supply to the compound feed industry

EQ2 To what extent have the CAP measures applicable to the protein crop sector influenced the supplies to the compound feed industry, with regard to crop (beans, peas, sweet lupins); quantity; prices; geographical distribution?

To what extent have these supplies corresponded to the plant protein needs of the compound feed industry and influenced substitution with other plant protein sources?

Compound feed demand for protein crops fell sharply over the evaluation period. It is not possible to identify whether weak demand forced local output down, or *vice versa*. What is clear is that, at prices the feed sector was willing to pay for protein crops, many producers chose to reduce their output.

Not all feed uses were equally hard hit. On-farm feed suffered less than compounding. There is some evidence that protein crops have a niche in two segments: non-GMO feeds and organic feeds. Experience in the organic protein crop sector is not uniform; organic production fell as a share of output in France, but grew in Germany.

Premium human and pet food sales have also been well maintained, the former destined primarily for export to North Africa and South Asia. The Canadian case study has shown that the export opportunities stimulated the development of the field pea output.

### *E9.1 Effects of the 2003 reform on the changes in quantity and type of protein crops purchased by the feed compounding industry.*

The decline in protein crop output after 2004 reduced local supplies to the feed industry, but other factors, outside CAP protein crop policy, reduced feed demand for protein crops. One factor was the ban on meat and bone meal (MBM) in many feed uses in 2001, as a result of BSE. MBM is high in protein and was widely used to complement protein crops (whose protein content is relatively low) in mixed feeds.

Other factors were the ease with which soybean meal supplies filled the gap in demand for high protein ingredients; and the reduction in cereal intervention prices since the 1990s, which encouraged the mixing of feed wheat with soybean meal to yield a product very similar in its amino-acid composition to field peas. A major factor since 2004 was the big increase in supplies of rapeseed meal in response to CAP energy crop measures. Its higher protein content than that for protein crops makes it attractive to feed compounders.

It is not possible to establish a causal link between changes in 2003 in CAP protein crop measures and the reduced use of protein crops as feed ingredients, but the availability of other protein inputs at competitive prices meant that feed compounders were very little affected by the drop in protein crop supplies.

### *E9.2 Effects of the 2003 reform on the geographical distribution of supply*

Since the 1990s, feed mixing plants have moved from traditional crop production centres to areas near ports, well placed for imported ingredients. The industry has also undergone consolidation, and the unit costs of handling reduced protein crop supplies have risen. This lowered feed demand for protein crops, hence raising their unit handling costs further. There is no evidence that the 2003 reform played any part in determining the pace or extent of the structural changes affecting the feed compounding sector.

At the same time, the geographical distribution of apparent protein crop consumption of feed uses has mirrored the evolution of output by MS. Among the leading producing MS,

apparent consumption increased substantially in the period 2004-2007 only in Spain. Other major producers among MS experienced significant reductions in their consumption.

### *E9.3 Effects of the 2003 reform on prices paid by the feed compounding sector*

Feed users incorporate protein crops into mixtures at prices they consider reasonable. The close correlation since 1993 between field pea prices and a weighted average of feed wheat and soybean meal prices implies that field peas remained competitively priced, from the processors' point of view. In food uses, the premium for yellow peas over lower quality field peas used in feed is determined by net import demand for yellow peas into the Indian sub-continent. We conclude that the key determinants of protein crop prices are market factors, not the 2003 policy measures.

The supply of protein crops definitely affects compounders' willingness to use them. "Critical mass" is frequently mentioned in discussion of the sector. Compounders and traders mention it in terms of their concerns about the future of these crops. They need to maintain separate *filières* for protein crops, with dedicated storage capacities. The decline in quantities available locally has increased the unit transactions costs of using these inputs. These higher costs deter compounders from incorporating them into their formulations.

## E10 EQ3: Competitiveness of protein crops

EQ3 To what extent have the CAP measures applicable to the protein crop sector contributed to fostering the competitiveness and promoting the market orientation of protein crop production?

The relative competitiveness of protein crop production vs. alternatives will be analysed pre-reform; post-reform; and with full decoupling, including associated production responses.

### *E10.1Effects of the 2003 reform on the competitiveness of protein crops*

Analysis of gross margins and incomes per hectare in selected regions revealed that protein crops were at a disadvantage to competing COP crops both in 2000-2003 and 2006-2007. In the latter period, their competitiveness worsened in six of seven region-crop permutations covered in the evaluation. The exception was the lowest yielding region in the survey, Castilla-La Mancha, Spain. Protein crops also fared poorly in terms of risk in their full gross margin (measured by the coefficient of variation in 2000-2007).

The difference between the experience of Castilla-La Mancha and that of the other case study regions in terms of the competitiveness of protein crops against other COP crops (this region was the only one where incomes from protein crops improved relative to other COP crops between 2001-2003 and 2006-2007) suggests that the 2003 reform had an impact upon the geographical distribution of output within the EU-15 MS. However, this is not supported by statistically significant results from the analysis of area changes.

Protein crops have also lost competitiveness since 2003 in their share of feed demand. As noted already, the main reasons for this decline are unrelated to the new measures.

We analysed the counterfactual case of full decoupling. This would reduce full incomes per hectare from protein crops, and would be expected to lower protein crop areas. Simulations were undertaken of the impact of full decoupling, using the results of the farmers' questionnaires and econometric analysis of the relationship between the profitability of protein crop production and changes in planted areas.

The conclusions need to be interpreted with caution, since neither approach is statistically robust. With this qualification in mind, we note that the different approaches implied that full decoupling would reduce the protein crop areas by between 2.9% and 8.6% from 2008/09 levels.

### *E10.2 Effects of other CAP reforms on the protein crop sector*

A simulation was undertaken to determine whether changes, e.g., lower intervention prices and reforms in coupled payments, in the broader CAP framework as well as in world market prices discouraged output of field peas vs. wheat across the EU-15. The analysis indicated that higher yielding EU-15 regions would have found field pea output increasingly uncompetitive after 2001. Lower yielding regions only started to find field peas unattractive after 2003. These results are in line with the observed changes in plantings.

### *E10.3Effects of the 2003 reform on the market orientation of protein crops*

Thanks to minimal tariff barriers, local protein crop prices are closely aligned with world market prices, and this was not affected by the 2003 reform.

### *E10.4 Investment in new seed varieties*

Lower protein crop output reduces the number of seed companies for whom protein crops remain a viable sector. Many seed companies state that they can no longer justify a major research effort. The problem is most marked for field peas.

## E11 EQ4: Maintenance of farmers' incomes

EQ4 To what extent have the CAP measures applicable to the protein crop sector contributed to maintaining/increasing farmers' incomes?

### *E11.1 Effects of the 2003 reform on incomes of protein crop producers*

Producers' full incomes per hectare comprise gross margins at market prices; rotational benefits; and coupled and decoupled aids. After full implementation of the SPS in 2006, coupled aids fell. The decline was smaller in France and Spain, which retained 25% of their coupled arable aids as a coupled aid.

The new decoupled aids offset much of the fall in coupled support. In 2006-2007, combined coupled and decoupled aids per hectare of protein crops were below, though not by much, the (fully coupled) support in 2001-2003 in six of the seven region/protein crop combinations in our analysis. Castilla-La Mancha/field pea output was the sole exception.

Rotational benefits have risen in the period 2004-2007, due to higher prices of nitrogen fertilisers and cereals, whose yields increase when they follow protein crops in a rotation.

Protein crops benefited in recent years in their direct costs from their low fertiliser use, but lost competitiveness in full incomes per hectare, because of poor yield trends and higher market prices for competing crops.

Analysis reveals that, since 2003, protein crop producers' full incomes did not increase as much as those earned per hectare of other COP crops but the causes were not related to the specific protein crop aids introduced in the 2003 reform.

## E12 EQ5: Efficiency in achieving the objectives of the measures

EQ5 To what extent are the CAP measures applicable to the protein crop sector after the 2003 reform efficient in achieving the objectives of these measures?

### *E12.1 Extent to which the objectives of the reform were achieved with a reasonable use of resources*

The 2003 reform lowered budgetary costs of coupled aids, but the savings were shifted mainly to decoupled aids. The analysis revealed that aggregate levels of support per hectare for protein crop farmers fell slightly less in six of the seven regions surveyed in 2006-2007 in relation to 2001-2003. The only region where total support per hectare increased was Castilla-La Mancha.

Since total support per hectare changed little after the reform, the measures continued to provide stability to protein crop farm incomes.

### *E12.2 Deadweight*

Analysis suggests that there was no deadweight in the measures, since the reduction of the protein crop area and output would have been bigger in the absence of all special aids.

The cost-effectiveness of the measures in budgetary terms in maintaining protein crop production was assessed on the basis of producer questionnaires and linear regression analyses of the relationship between plantings and profitability per hectare, though none of these has statistical significance.

They suggested that the net budgetary cost of maintaining one marginal hectare of protein crop output was €650-€1,950, implying inefficiency in the measures.

These were derived by dividing the total budget spent on the special aid of €55.57 per hectare of protein crops by estimates of the reduction caused in the protein crop areas by full decoupling (2.9%, i.e., 24.000 hectares from a total of 840,000 hectares to 8.6%, i.e., 72.000/840,000 hectares).

### *E12.3 Unintended side effects*

Analysis of the geographical distribution of protein crop areas provided weak evidence to support the hypothesis that the measures gave limited encouragement to plantings in low yielding regions, while discouraging them in high yielding areas. This is interpreted as an unintended side effect of the 2003 measures.

This effect will vanish under the Health Check reform when full decoupling is applied. However, individual MS may retain some coupled aid under Article 68 Reg. 73/2009 measures and apply partial decoupling under Article 63.

### *E12.4 Simplification of the administrative measures*

Our analysis provides no indication that the 2003 reform caused an additional administrative burden for producers or for government agencies. For both groups, no changes were noted in this burden after the reform.

## E13 EQ6: Coherence of the measures with the 2003 reform of the CAP

EQ6 To what extent are the CAP measures applicable to the protein crop sector after the 2003 changes coherent with the overall concept and principles of the 2003 reform of the CAP?

### *E13.1Economic sustainability of the sector*

In terms of competitiveness with non-EU supplies, the EU market for protein crops is very open and this openness was not altered by the 2003 measures.

Regarding competiveness vs. other COP crops, this worsened in most regions after 2003 reform, but this was due to adverse external factors, not the specific protein crop measures.

Protein crop use by feed compounders was hit by exogenous factors such as bans on meat and bone meal in most feed uses in 2001 and increased availability of rapeseed meal as a result of CAP energy crop measures. The 2003 measures played no role in the decline in protein crop use.

Some bright spots exist. There has been an increase (relative to the rest of the sector) in three segments: the development of organic production; protein crop use in on-farm feed; and the production of premium-priced protein crops. Again, development of these outlets was not linked to the 2003 measures.

### *E13.2 Social sustainability of the sector*

Protein crops represent a very small share of total labour use on protein crop farms. In feed compounding, too, protein crops only account for a small share of inputs. There was no evidence that the 2003 reforms affected employment in either activity.

### *E13.3 Environmental sustainability of the sector*

Protein crop production generates valuable externalities via lower input use and higher yields for following crops. Within the protein sector itself, analysis of input use by a sample of producers revealed no evidence of systematic change in input use between 2003 and 2008.

In Germany, there was an increase in the organically farmed share of protein crop areas, but the share fell in France. Thus, evidence regarding the adoption of organic farming is mixed.

The producer questionnaires revealed that a significant minority felt that wider CAP measures, notably agri-environmental payments, were important in their decision to farm protein crops.

## E14 EQ7: Correspondence to the needs of producers and users

EQ7 How far do the objectives of the CAP reform correspond to the needs of producers and those of the compound feed industry and livestock farmers?

### *E14.1 Effects of the 2003 reform on fair living standards for producers*

Protein crop producers' full incomes per hectare changed little after the 2003 reform. Against other COP crops, however, they have lost competitiveness in recent years. It must be stressed that there is no evidence these outcomes are the result of the 2003 reform.

The stability of producers' incomes is enhanced by the CAP measures. Together, the systems of coupled and decoupled payments reduced income instability (measured by the coefficient of variation) substantially vis-à-vis the volatility of gross margins at market prices.

### *E14.2 Effects of the 2003 measures on meeting the needs of users*

Demand for protein crops in feed has declined since 2000, due to the larger supplies of ingredients with a higher protein content and bans on meat and bone meal use. These were not connected to the 2003 protein crop measures.

### *E14.3 Effects of the 2003 measures on reasonable prices for consumers*

Internal market and international prices are closely aligned, thanks to the virtual absence of trade barriers. This situation was evident before 2003 and was not affected by the reform.

### *E14.4 Relevance of the 2003 measures in the protein crop sector*

The measures were relevant to producers in two main respects, helping to maintain producer incomes after the reform, and continuing to provide stability to producer incomes.

For users, the reform made no changes from the previous measures. Domestic prices remained closely linked to world market prices.

## E15 Overall conclusion

A major conclusion is that the sector's decline and loss of competitiveness were not a result of the 2003 measures, but were due to external factors. However, the decline, notably in field peas, is creating a loss of critical mass in the *filière*, reducing interest from seed companies, agri-chemical producers and traders in maintaining activities in the sector, and it is evident that some producers are displaying a lack of confidence in the future prospects of the sector.

Not all is bleak. The decline has been led by field peas and by the EU-15 MS. Experience in the EU-12 is more encouraging; total protein crop areas grew after 2004, led by sweet lupins, which are favoured for on-farm feed use, an increasingly important issue as traceability becomes a greater concern on the part of users. In the EU-15, field beans have been a growth sector, helped by the development of erect varieties and by stable high value export markets for food uses.

In general, three sectors appear well placed for the future: production for food markets, particularly in third countries; on-farm feed use, to benefit from worries about traceability; and organic production.

## E16 Recommendations

Falling output of protein crops for bulk feed uses will continue, unless agronomic constraints can be overcome. The need for improved varieties is a top priority if the sector is to survive and eventually revive. We believe that an increase in spending on research is crucial, to enhance the technical competitiveness of the sector vs. other COP crops.

A further recommendation is to learn from Canada's success in premium-priced protein crop exports, by promoting sales to human and pet food markets. Art. 68, Ch. 5 in the Health Check reform, Reg. 73/2009, allows MS to grant specific support to farmers in particular to address environmental and welfare issues and improve the quality and marketing of agricultural products, including protein crops; this opportunity should be actively encouraged.