

COMMISSION OF THE EUROPEAN COMMUNITIES

COM(77) 363 final

Brussels, 27 July 1977

REPORT ON STARCH PRODUCTS IN THE COMMUNITY AND THE STARCH PRODUCTION REFUND

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STARCH PRODUCTS IN THE COMMUNITY AND THE STARCH PRODUCTION REFUNDP A R T I

1. The Community starch industry has benefitted from aid since 1962 when a system of production refunds was introduced¹⁾. This system replaced the special national aids available in most of the different Member States before the establishment of the common organisation of the market for cereals.
2. The refunds were designed to allow the starch industry to maintain competitive prices in the face of strong competition which still exists from synthetic products by enabling it to purchase its basic raw materials at prices lower than those which resulted from the application of an import levy regime (in other words, below threshold prices and around world prices), to ensure a fair standard of living to the starch potato grower, and at the same time, to ensure a balance between the different starch sectors particularly between maize and potato starch.
3. Until 1967, the granting of refunds was optional but, as from August of that year, refunds were put on a more permanent basis by making them obligatory. They were made available on maize, wheat or broken rice for the manufacture of starch, on maize used for the manufacture of groats and meal intended for brewing and on wheat or maize intended for the manufacture of 'quellmehl' for human consumption²⁾.
4. The rates of production refund available were established as being equal to the difference between a fixed supply price and the appropriate threshold price for the cereal in question. The refund on potato starch was fixed at the same rate as that on maize starch (i.e. the rate for maize multiplied by 1.61). From 1967 to 1974 the supply price remained absolutely stable (for maize and wheat at 68 ua/ton and for broken rice at 83 ua/ton). Thus, with regular increases in threshold prices, the refunds available increased by the same amount. Between 1967 and 1974 the rate of refund on maize, the most commonly employed raw material, almost doubled from 20,38 ua/ton to 39,45 ua/ton. Potato starch enjoyed

1) Council Regulation (EEC) N° 55, OJ N° 54, 2.7.1962, p. 1583

2) Council Regulation (EEC) N° 120/67, OJ N° 117, 19.6.1967, p. 2269.

the same rate of increase whilst the refund on wheat rose from 36.38 to 55.50 ua/ton over the same period. For the reasons set out in paragraph 27 the starch industry thus benefitted from the considerable and unique advantage amongst processing industries in the Community of having fixed supply prices for its raw materials irrespective of moves in institutional or market prices, except when the latter were at very high levels.

5. For example, in 1972/73 the world market price for maize started to move above the fixed supply price of 68 ua/ton and by July 1973 was almost 30 ua/ton higher, but still below the Community threshold. Maize starch producers therefore enjoyed the additional privilege of having access to supplies at prices which were not only lower than the threshold but also considerably lower than those on the world market. Even when world market prices rose above the threshold as they did over a considerable period in 1973/74 and for most of 1974/75, the starch industry was able to supply itself at prices well below these levels although these were in excess of the Community supply price.
6. On accession, the starch industries in the new Member States became entitled to the refund but generally at lower rates because the application of accession compensatory amounts to the basic raw materials used (e.g. maize, wheat) made them available at prices lower than those applying in the "Six".
7. In August 1974, against a background of rising prices on the world and Community markets, supply prices were raised from 68 ua/ton for maize and wheat to 82 ua/ton and from 83 ua/ton to 102 ua/ton for broken rice³⁾. This automatically resulted in a fall in the production refund on maize to 24,60 ua/ton, but nevertheless the supply price remained well below the world price. At the same time, refunds were introduced for maize groats used for the manufacture of glucose by direct hydrolysis and were abolished for 'quellmehl'⁴⁾. It had become clear that in certain Member States a large part of the 'quellmehl' produced was being used for animal feed purposes, contrary to the intentions of the Council and was competing unfairly with non-subsidised feed grains.
8. Following an all round increase in institutional prices in October 1974, the supply price for maize and wheat was raised to 87,45 ua/ton and for broken rice to 109,07 ua/ton⁵⁾ so as to maintain the level of the production refund at the new rate effective from August 1974 (e.g. 24,60 ua/ton for maize).
9. The high level of world prices persisted during the autumn of 1974 - in October the world market price for maize was 20 ua/ton above the Community's

3) Council Regulation (EEC) N° 1132/74, OJ N° L 128, 10.5.1974, p. 24

4) Council Regulation (EEC) N° 1125/74, OJ N° L 128, 10.5.1974, p.

5) Council Regulation (EEC) N° 2518/74, OJ N° L 270, 5.10.1974, p. 1

threshold price and 45 ua/ton above the fixed supply price. It was concluded that refunds at the rate then obtaining, bearing in mind the consequent heavy charge on FEOGA funds, were no longer economically justified. The decision was taken to reduce refunds in line with the provisions of Council Regulation 1132/74 which allowed for modifications in refunds when world prices show appreciable and persistent variations. The reduction of about 50% in the refund was achieved by raising the supply price (that for maize and wheat was raised from 87,45 ua/ton to 103,10 ua/ton) and took effect from 1 April 1975⁶⁾.

In February 1975, with the objective of reducing FEOGA expenditure still further, the Commission had already proposed that as from the beginning of the next crop year (1975/1976) aid should be further reduced and that the system of supply prices should be abandoned and replaced by a flat rate refund system. As a result, from 1 August 1975, the Council fixed a uniform refund of 10 ua/ton for maize 16,30 ua/ton for wheat and 12,30 ua/ton for broken rice⁷⁾. At the same time, refunds were totally suppressed for maize groats and broken rice intended for brewing. It was felt that it was not one of the purposes of FEOGA that its funds should be spent to subsidise raw materials used in products which could, at a later stage, become subject to taxation by Member States to the benefit of their national exchequers. In addition, refunds for cereals and potato starch were once again made optional rather than obligatory since it no longer seemed advisable to automatically grant a refund in all circumstances.⁸⁾

However, the substantial reductions which had been made to the refund coupled with increases in the threshold price, whilst justified in the context of rising prices on the world market, had raised the industry's effective supply price for maize, for example, from 68 ua/ton in 1973/74 to an average of 121 ua/ton in 1975/76. This substantial increase in the supply price over a period of two years took place against a general background of economic recession with consequent slackening in demand from the starch industry's major customers (e.g. the paper, textile and confectionery industries) and against rapid escalation in the price of fuels etc.

6) Council Regulation (EEC) No 3113/74, OJ No L 332, 12.12.1974, p. 1

7) Council Regulation (EEC) No 1955/75, OJ No L 200, 31. 7.1975, p. 1

8) Council Regulation (EEC) No 665/75, OJ No L 72, 20. 3.1975, p. 14

rapid escalation in the price of fuels etc. This combination of circumstances led to a fall in production. For example, the amount of maize handled in 1975 was 3,2 million tons compared with 3,7 million tons in 1974 - a drop of 14%. A number of firms, particularly in the potato starch sector found themselves in financial difficulties. These difficulties were, in some cases, partly mitigated by the sales opportunities presented for glucose by high sugar prices and furthermore, some substantial new investments were made in the maize and wheat starch sectors.

12. In 1976/77, therefore, the production refunds were raised in the short term from 10 to 14 ua/ton for maize, from 16,30 to 20 ua/ton for wheat and from 12,30 to 17,20 ua/ton for broken rice⁹⁾, but at the same time the Council were also invited to consider the desirability of gradually suppressing all production refunds over a period of two years commencing with a 50% reduction as from 1 August 1977. This invitation to the Council was along the same lines as the Parliament's view that it was both possible and desirable to provide for a progressive suppression of starch production refunds. This view formed part of its Opinion on the Commission's price proposals for 1976/77 (12 February, 1976).
13. The Council did not reach a conclusion on the question of gradual suppression at its session of 19-20 July 1976 but in considering afresh whether such suppression would be in the Community's best overall interests, the factors set out in the Part II should be borne in mind.

9) Council Regulation (EEC) N° 1862/76, OJ N° L 206, p. 3

P A R T II

14. FEOGA Expenditure

Since 1970, expenditure in the starch production refund sector has been as follows :

| | | | | | | | | | mio. u.a. | | | | | | | |
|---|------|---|------|---|------|---|------|---|-----------|---|------|---|------|---|------|---|
| : | 1970 | : | 1971 | : | 1972 | : | 1973 | : | 1974 | : | 1975 | : | 1976 | : | 1977 | : |
| : | 86 | : | 94 | : | 127 | : | 182 | : | 190 | : | 89 | : | 47 | : | 62 | : |

In other words, since production refunds were introduced in the early 1960's over 1,000 mio. u.a. has been spent. By comparison, total expenditure in the cereals and rice sectors over the last five years has been as follows:

FEOGA Guarantee Section. Annual Expenditure.

| | | | | | | mio.u.a. | | | | | |
|----------------|---|------|---|------|---|----------|---|------|---|------|---|
| | : | 1973 | : | 1974 | : | 1975 | : | 1976 | : | 1977 | : |
| Cereals Sector | : | 1030 | : | 400 | : | 621 | : | 692 | : | 759 | : |
| Rice Sector | : | 11 | : | 1 | : | 4 | : | 30 | : | 29 | : |

(a more detailed breakdown of the above expenditure is shown in Annex D).

It should be noted that the increased expenditure on production refunds in 1973 and 1974 was not entirely attributable to the rates of refund available but also to accession of the three new Member States.

15. It should also be explained that if production refunds were to be totally suppressed, it is unlikely that there would be a final net saving to FEOGA of the amounts now spent on this aid. Expenditure on export refunds for starch products would be increased since the export refund at present available takes account of the production refund. So, of course, would levies on imported starch and starch products but because of the level of protection against third country supplies, imports of these products is relatively small. (On the other hand, imports of some of the by-products of starch manufacture, e.g. maize-oil and maize gluten feed enter the Community either free of levy or at very low rates - see paragraph 19). Furthermore, it is possible that starch manufacturers might try to build up their export markets as competition on the internal market intensified. Exports of starch and starch products currently run at about 200 000 tons per annum.

Nevertheless, suppression would undoubtedly result in an overall saving.

16. However, in considering the real overall net cost of the production refund system to the Community's budget it is instructive to also take account of the income derived from levies on raw materials imported for processing. Whilst the income from levies on wheat, broken rice or potatoes used for starch production is negligible, that derived from imported maize is considerable. On average, out of the total annual usage of around 3 mio. t. of maize for starch, 2 mio. t. are imported from third countries. Thus, over the last five years, based on the average levy for each marketing year, it is estimated that imports of maize for starch production produced amounts in the region of those shown below in the form of levy revenue.

Import Levy Receipts on Maize Imported for Starch Manufacture

| | Average Import Levy on Maize ua/t | Estimated Levy Revenue on 2.3 mio. t. Maize mio. u.a. |
|----------|---|--|
| 1972/73 | 30,86 | 71 |
| 1973/74 | 3,15 | 7 |
| 1974/75* | 12,82 | 29 |
| 1975/76 | 28,53 | 65 |
| 1976/77 | 47,15* | 108 |

* Average import levy, August 1976 to April 1977 inclusive.

17. It is clear that in the period 1972/73 to 1974/75 with yearly average production refunds on maize of 35,23 ua/t, 36,33 ua/t and 23,51 ua/t, the system represented a considerable net charge on the Community's budget. In 1975/76, on the other hand, with a reduction in the production refund on maize, for example, to 10 ua/t, the system started to make a net contribution to Community funds even with the costs of production refunds on wheat, potatoes and broken rice taken into consideration. In practice, however, levy income is not divisible and it is not possible to divert levy receipts to individual sectors.
18. Effect on Size of Industry and Numbers employed

It will be seen from the table below that whilst processing in the maize starch industry, the largest processors in the starch sector, increased during the period of stable supply prices from 1967 to 1974, production

fell significantly in the more difficult conditions obtaining in 1974/75 and 1975/76 (e.g. general economic recession, increased fuel prices, reduced production refunds). Processing in the starch industry's other sectors (wheat, rice and potato) followed a similar pattern. It is, of course, difficult to ascribe this general fall in output or its consequences to any specific factor. Nevertheless, the whole industry directly employs a work force of between 25 and 30 000 though those employed in the potato starch sector are largely casual, and the possible effect on these employees, on the capital invested and on the growers of starch potatoes of any further fall in activity brought about by reductions in or suppression of the production refund cannot be overlooked in the overall interests of the Community.

mio.t. maize processed

| 1966/67 | 1967/68 | 1968/69 | 1969/70 | 1970/71 | 1971/72 | 1972/73 | 1973/74 | 1975/76 | 1976/77 |
|---------|---------|---------|---------|---------|---------|---------|---------|---------|---------|
| 1.45 | 1.78 | 1.57 | 1.70 | 1.88 | 2.53 | 3.26 | 3.89 | 3.54 | 3.03 |
| (100) | (123) | (108) | (117) | (130) | (174) | (225) | (268) | (244) | (209) |

Potato starch production figures are given separately in Annex E.

19. Consumer Effect

There is no doubt that suppression of production refunds would not help Member States governments to restrain inflationary pressures over a wide range of products. But, in the case of some products the financial impact on the final price to the consumer of the finished product, if the refund were to be totally abolished, would be small because of the relatively minor proportion of the final cost which the refund represents.

20. Imported Raw Materials used

It is estimated that about 70% of total FEOGA expenditure on production refunds is on maize for starch (about 3.4 mio. t. a year). The Community is deficit in maize, and annually imports about 15 mio. t. Maize processed into starch represents 14% of this total. Almost half of the total refund expenditure is on imported maize and must represent some advantage to the U.S. maize farmer. The balance of expenditure is on Community grown wheat, maize and potatoes and on broken rice.

21. Competition from Third Country Imports

Whilst it is the case that the industry is adequately protected from starch and glucose imports from third countries by import levies made up of a variable element and a fixed element, the last mentioned of which applies whatever the state of the world market, the same is not true of a range of starch based industrial products (for example: ex: CFT 39.06 B

- other high polymers which covers starch esters and ethers, 29,16 AV - gluconic acids and gluconates). Such products are not subject to the levy arrangements of the cereals regime but to relatively low ad valorem custom duties. Since many of these industrial products are derived from starch made from maize, a raw material, which is frequently available to third country processors at prices 50 ua/t or more below those obtaining in the Community, they could present a threat to Community products. On the other hand, in most of these products the cost of the raw material usually represents a relatively small proportion of total production costs.
22. However, the industry also finds itself largely unprotected against imports from third countries of starch industry by-products which represent about 30% of total raw material (e.g. maize gluten feed, oil cake, maize oil), where the cost of the raw material is of greater significance. As was explained in the previous paragraph, maize is normally available to third country starch producers at much lower prices than those paid by Community manufacturers. It is thus hardly surprising that imports of maize gluten feed, for example, (CCT heading No 23.03 A II), one of the industry's most important by-products, and which under GATT, enters free of both duty and levy, had risen from 734 000 tons in 1972 to 1.32 mio. tons in 1976. Annual Community production is about 600 000 tons but falling due to declining starch manufacture. Imports of oil cake (CCT heading No 23.04 B), another by-product, also enter free of duty and levy and imports of maize oil (CCT heading No 15.07 D II) are subject only to a duty of 10%. With no production refund or with a much reduced one, Community starch producers could find it increasingly difficult to resist competition on these two fronts.
23. Furthermore, if no changes were made to the present levy regime there could also be an increasing possibility of starch and/or starch derivatives (e.g. glucose) being imported from ACP/PTOM countries, with relatively modest import levies, as industrialisation in these countries develops. Whilst imports of starch from third countries, other than ACP/PTOM, are subject to substantial fixed elements (maize starch: 17.00 ua/t; glucose: 80.00 ua/t or 55.00 ua/t), imports from ACP/PTOM countries bear no fixed element whatsoever, but only a variable element. It is likely that starch millers in these countries will be able to pay local producers of maize prices much lower than would be acceptable in Europe or even in the U.S.A. It is not without significance in this regard that reports have been received of an American maize starch plant being set up in the Cameroons.

24. It should also be noted in the context of competition from developing countries that manioc root which is a rich source of starch and which can easily be substituted for potatoes in the potato starch process is subject only to very low import levies (this may not exceed a maximum of 6% ad valorem fixed in GATT). Community imports of manioc root have doubled in 3 years and in 1976 reached 3 mio. tons. The use of manioc for starch could thus possibly become more attractive in a situation without refunds. Moves in this direction have already taken place but these can largely be attributed to two dry growing seasons for potatoes and the resultant supply difficulties for potato starch manufacturers, but nevertheless, manioc could be an alternative starch source.

25. Production of High Fructose Glucose Syrup (Isoglucose)

One of the reasons for the appearance of Isoglucose on the Community sweetener market has been the economic difficulties recently experienced by the starch industry. These difficulties described elsewhere (economic recession, several and substantial cuts in the production refund and increased competition from synthetics) have led the starch industry to intensify its research programmes and to explore alternative outlets for its surplus production capacity.

Community production of this starch based sweetener at present runs at about 70'000 t (per annum) from a total production capacity of about 150 000 tons. The Council decided at its July 1976 session to abolish production refunds on products used for isoglucose as from 1 August 1977 and further restrictive measures were agreed by the Council at its April 1977 session. If production refunds were to be reduced and/or suppressed on starch generally, this would, of course, have the effect of restricting the competitive possibilities of isoglucose further.

26. Competition from Synthetic Products

One of the prime reasons for introducing production refunds and which remains unchanged was to enable natural starch products to compete with synthetic products by making the basic raw materials available at something like world prices.

27. It is estimated that about 50% of the whole industry's output finds its outlets in the technical and industrial sectors (e.g. adhesives, resins etc.). In the potato starch sector particularly and for wheat starch, this percentage is much higher. And it is in this particular area of application that the starch industry, as a whole, faces stronger competition. Whilst it is the case, as was mentioned in paragraph 4, that the starch industry is the only Community cereal processing industry to have enjoyed the benefit of a stable supply price, it is, at the same time, the only one which has to compete directly with an industry outside the agricultural sector and thus not subject to the effects of market arrangements.

The prices which the starch industry pays for its raw materials directly or indirectly result from the application of threshold prices, import levies etc. whereas the petro-chemical industry is not subject to these restraints and is free to buy its raw materials at world market prices.

As a result of changes in Community market arrangements, the maize starch industry for example, has seen its supply prices almost double in two years (see Annex C, Table I) and the whole industry, in an effort to retain its industrial outlets, has not passed on these substantial increases. On the other hand, the large increases in crude oil prices in recent years have clearly raised the input costs for the synthetics industry and, as a result, its competitive potential has been restricted. Thus, the conditions which obtained in the early and mid-1960's with oil prices at a fraction of their present level, and which was one of the main reasons for the introduction of the production refund system, do not apply to the same extent. Nevertheless, the prices paid by the synthetics industry remain those of the world market and the possibility of being able to follow a flexible selling price policy has enabled it to take advantage of the starch industry position. Furthermore, in considering whether and, if so, to what extent, cereal and potato starches should be assisted to resist the competition of the petro-chemical industry, the problem of declining oil resources and the need for fuel conservation should also be kept in mind.

28. As far as competition for outlets in the human and animal food sector is concerned, the same situation does not apply since most, if not all, competing products are, to more or less the same extent, equally affected by market regimes for the raw materials in question.

29. Maize Starch/Potato Starch Balance and returns to Potato Growers

Another important sought after effect of the present starch production refund system is the preservation of the balance between maize and potato starch and the guarantee of a reasonable standard of living for the starch potato grower. This balance is at present maintained by fixing a minimum price (derived from the maize threshold price) which the potato starch producer must pay to the potato grower in order to qualify for the production refund. Without such a constraint, the potato starch industry would be free to negotiate its own price level, unlike the maize starch industry, which would still be subject to the consequences of threshold prices, etc. A free market situation for starch potatoes could also arise if the refund became so small in relation to forego it and negotiate a price below the minimum. However, the absence of a production refund - or a sufficiently attractive one - need not necessarily mean that a minimum price or its equivalent would no longer be observed. Equally effective methods of enforcing observation of the minimum could be introduced without great difficulty. In any event, in a situation without refunds, the maize supply price to the starch industry would clearly rise and the processor would attempt to recoup this increase from the market by raising selling prices of the finished product, subject to price regulations and market conditions. An increase in the selling price of maize starch products would enable the potato starch producer to raise his selling prices of competing products in sympathy so that the income of the potato starch industry - and as a result that of the potato growers - could also be increased.

30. However, this would be easier to achieve in outlets where potato starch or derivatives were in competition with maize or other cereal starches (i.e. in the human food sector) than in situations where the main competition came from petro-chemical/synthetics. It is estimated that about 80% of the potato starch industry's output goes to the technical sector, so that it is particularly vulnerable in this respect. The possibilities of extending its activities in the human food sector have, of course, to some extent, been restricted by the recent measures taken on isoglucose.

31. In considering the question of maintaining a balance between potato starch and maize starch and with chemical synthetics, sight should not be lost of the other unfavourable factors affecting the potato sector. Unlike the maize starch (and wheat and rice starch) industry, which has the advantage of flexibility and is free to purchase its raw material at any time throughout the year, the potato starch industry which processes for only 3 months of the year, normally enters into contracts with growers before processing has started

for the whole of its seasons supply. This restricted processing season means that its fixed costs are concentrated over a much shorter period than is the case for cereal starches. The processing plants are frequently owned by farmers co-operatives and their general capital situation is less favourable than elsewhere. Moreover, because it is entirely dependent on Community sources for its raw material it is more seriously affected by harvest fluctuations. This was particularly noticeable in the autumn of 1976 when, following the poor potato crop, brought about by exceptionally dry weather, the industry found itself unable to obtain sufficient supplies and was thus forced to operate well below capacity. The industry is also burdened with the heavy costs of anti-pollution safeguards and is also more vulnerable to market fluctuations than the wheat or maize starch industries where in spite of competition at world market prices the range of valuable by-products helps to play a stabilizing role. Finally, it should be recognized that the industry performs a useful buffer function on the Community's potato market, absorbing surplus supplies when potatoes are plentiful and restricting processing and thus boosting supplies of potatoes for consumption in times of shortage.

32. When considering the income of the starch potato grower, it should also be borne in mind that since the early 1960's when the refund system was introduced, the area sown to potatoes as a whole within the Community has gradually declined. By 1974, for example, the total area sown was only 50% of that in 1961/65. Whilst increased yield has gone some way to counteract this trend, potato production has also fallen by about 25% over the same period. This fall in production has put the potato grower in a stronger position as a seller. Current conditions have also meant that a move into potatoes for human consumption has become a more attractive alternative. But in a situation where consumption of potatoes became highly attractive, there could be a danger that the acreage sown to starch potatoes could decline to the extent that the industry was more or less permanently unable to find the necessary quantities of potatoes on the Community market.

33. Suppression of Production Refunds for Maize Groats and Broken Rice for Brewing

As was explained earlier (in paragraph 8), refunds on maize groats and broken rice intended for brewing were abolished from the start of the 1975/76 marketing year. However, as maize starch can be substituted for maize groats in the brewing process with only minor technical modification and as refunds continued to be paid on maize starch - regardless of its end use - a number of brewers who had previously used groats could find it advantageous to move over to starch in spite of inferior handling characteristics and the technical modifications necessary in the brewery. Notwithstanding Commission proposals to the Council, these aids have not been reintroduced. The European Parliament has also twice

declined to accept proposals for their reintroduction. At the same time, it has not proved possible to introduce an effective control system which was not prohibitively costly to prevent starch used in brewing from benefitting from the refund.

Some distortion, therefore, could continue to apply between the products in question.

34. Relative Competitivity of Glucose and Liquid Sugar.

In most areas glucose syrup, a starch derived product, and liquid sugar derived from beet or cane are not in direct competition one with the other. As traditional glucose is a less powerful sweetener than liquid sugar, the two products tend to complement one another rather than compete. However, in a situation without refunds it is possible that in some of its applications glucose syrup could lose ground to liquid sugar. This will not be the case in all applications since glucose syrup possesses a number of technical advantages in confectionery, jams etc. Nevertheless, in situations where such technical advantage is only slight, purchasing decisions by users may tend to be more heavily influenced by price factors. It may well be that mixtures of the two products and of isoglucose will be increasingly used.

35. Competitive Costs of Raw Materials used

As is explained more fully in the descriptive Annex, the maize starch industry is by far the largest one in receipt of the production aid. Maize is thus the raw material mostly used. Its preponderance can be largely attributed to three main factors. First, its relative cheapness, generally speaking, compared with wheat, second - and this is linked to the first factor - its starch yield; 1 ton of maize normally produces about 620 kg of starch, whereas, the same quantity of wheat will produce only 450 kg of starch and third, the wider range and value of its by-products.

36. In comparing the costs of the two cereals used in Community starch production, it has to be kept in mind that whilst the maize starch industry imports two-thirds of its supplies and is thus largely subject to the direct effects of the threshold price, the wheat starch industry supplies itself entirely on the internal market at prices which are generally below the threshold. If it is assumed that for the present marketing year 1976/1977 wheat prices on the internal market will be on average about 10 ua/t below the threshold price, the comparative supply prices of the two products may be estimated as follows :

Estimated Average Supply Price for Maize and Wheat 1976/77

| | Maize | Wheat |
|--------------------------------|-----------|-----------|
| Average Threshold/Market Price | 143 ua/t | 147*ua/t |
| Production Refund | - 14 ua/t | - 20 ua/t |
| Estimated Average Supply Price | 129 ua/t | 127 ua/t |

* Average Threshold Price reduced by 10 ua/t.

Thus, even during a period of relatively high prices on the Community's internal wheat market, there is little difference between the average wheat supply price and that for maize. This equality of supply prices was the position when production refunds were introduced in the 1960's.

Any difference there is gives, if anything, a slight advantage to wheat. It could be argued that the wheat starch industry needs something better than average wheat in order to obtain wheat gluten and so pays something over average prices. This may well be so but at the same time the reduction of 10 ua/t made in the threshold price to arrive at an estimated internal market price is probably understated. There is, of course, as there always has been, a difference between the costs of the quantities of each product required for 1 ton of starch, since as was explained earlier, more wheat than maize is required to produce 1 ton of starch. The value of wheat gluten as a product of the wheat starch production equation cannot be ignored.

37. Whether the advantage of one product vis a vis the other would change in a situation without refunds will depend to a large extent on decisions taken in the future on the institutional prices for both products and whether such decisions alter the relativities between those products.

It will also depend on the extent to which the wheat starch manufacturers are able to use lower protein wheat for starch production. In any event, any changes made would need to be such that the indigenous product was not disadvantaged. There could possibly be a case for encouraging the use of wheat for starch since, in normal market conditions, production refunds could represent a cheaper method of disposing of Community wheat than export refunds. Further, the production of gluten as part of the wheat starch manufacturing process enables Community millers to use less North American strong wheat in their bread making grist. However, bearing in mind the workforce and capital employed care would also have to be taken so as not unduly disadvantage the established production of starch from maize. Whilst it is the case that the Community is deficient in maize, and as a result the starch industry normally needs to import 2 to 2 1/2 million tons each year, a drop in maize imports for starch manufacture would not necessarily

result in a net gain to the Community's overall balance sheet.

In drawing up such an overall balance, account would need to be taken of the by-products of starch production (eg. maize oil, maize gluten, oil cake) all of which would need to be imported, largely free of levy, in one form or another if there were a decline in the amount of maize processed into starch.

38. Effects on Common Agriculture Policy

Finally, it is necessary to consider the question of production refunds in the context of the Common Agriculture Policy as a whole and not merely from the narrower perspectives of the starch sector.

One of the first impressions to emerge from such an overall view is the industry's much stronger affinity with the manufacturing and processing industries than with the agricultural sector in general. The technical sophistication of the starch industry, and particularly that of maize starch manufacture, which is more strongly developed than of other cereal processors such as flour millers and maltsters and even of sugar refining, is a strong factor in this respect.

Furthermore, unlike the industries mentioned above, the starch industry with the exception of potato starch, is not the sole or major outlet for the Community's growers of the raw materials concerned. For example, out of a total Community wheat crop of around 35 mio. t. only 160 000 t ($\pm 0,5\%$ is processed into starch).

A larger proportion of the indigenous maize crop is used but only about 7%, or about 1 mio. tons. Nevertheless, the starch industry represents a fairly valuable outlet for maize growers in South West France. However, as the Community is deficient in maize, and normally imports about 50 % of its requirements, any maize not taken up for starch would readily find an outlet elsewhere. It is thus probably the case that if starch production were to decline, in the event of there being no or substantially reduced refunds, the effect on Community agriculture - apart possibly from potato growers - would be barely discernible. The same would not be the case if Community maltsters, for example, were to take up less barley. In the case of starch potato growers, as is explained in paragraph 29, the absence of a refund need not necessarily run counter to the growers' interests since the latter could,

benefit from the potato starch price moving up in sympathy with maize starch but probably only in non technical areas.

It is also the case that growers could, in most areas of production, move into potatoes for human consumption or into other crops. However, if this move became too pronounced there would be a danger of the complete disappearance of starch potatoes. It would be in the starch manufacturers interest to ensure as far as possible that this did not occur. Although once again their ability to do this would be limited by the presence of synthetic substitutes. It would thus appear to be the case that whilst the starch production refund system's contribution towards the aims of Article 39 of the Treaty is somewhat limited in the maize, wheat (and indeed broken rice) sectors it makes a significant contribution in the potato sector. Apart from potato starch, it would thus seem to be the case that such problems as may occur through a reduction or suppression in the production refund are perhaps more by way of being industrial and/or social rather than agricultural. Nevertheless, this would not make the problems any less serious and does not absolve the Community from seeking solutions.

PART III
CONCLUSIONS

39. It is apparent that developments over recent years have created a situation where some of the main reasons for the introduction of production refunds no longer apply to the same extent. It is also the case that payment of the refunds - substantially on an imported raw material - constitutes a heavy charge on FEOGA funds and that Parliament has taken the view that such payment should be discontinued where market conditions permit. Furthermore, it is doubtful whether suppression of the refund would have a significant inflationary effect on retail food prices in Member States and finally the production refund system does not, except perhaps in the case of potato starch, make a very significant contribution to outlets for community production. There would thus seem to be a number of factors leading to the conclusion that the long term preservation of the system in its present form is no longer economically justified.
40. On the other hand, due partly to the existence of the system and the expectation that production refunds would continue to be available, substantial capital has been invested in an industry which now directly employs a workforce of about 30 000 and about 20 000 potato farmers look to the potato starch industry for an outlet for their crop. Furthermore, the starch industry is the main processing industry subject to common market arrangements and which, at the same time, has to compete with an industry outside the agricultural sector and thus free to buy its raw materials at world prices. On the other hand, it also competes in the human and animal food sectors with other agricultural processing industries most of which are, in their turn, also subject to the effects of common market arrangements. Thus, whilst the suppression of the refund would probably not prevent the industry from maintaining its position in the human and animal food sectors - indeed there is no evidence to show that the substantial cuts in the refund already made have caused any excessive difficulties in this respect (except in the case of increased imports of products subject either to low or nil levies). The same would not be the case as regards non-food (ie. technical) outlets. If the industry were to lose these markets, which it has in a number of cases retained until now against strong competition from petro-chemical synthetics only by absorbing the recent increases in supply prices, employment (in the starch industry and in agriculture) and investment would be put at serious risk and a situation might arise where only the large companies frequently organised on an international basis were able to survive.

Furthermore, even if it were feasible to increase selling prices in this sector it would probably discourage the establishment or the expansion of user industries in the Community since they would find it increasingly difficult to compete with similar industries based in third countries. It is also probable that with declining outlets and support, the industry would be obliged to drastically cut back its research programmes so that opportunities for technical innovation and progress would be lost to countries outside the Community. Thus, whilst there would not seem to be an economic case for totally maintaining the system in its present form, there are strong arguments for enabling the technical products of the starch industry to compete with those of the petro-chemical industry. To do so could contribute towards the conservation of world oil supplies and tend to benefit the indigenous rather than the imported raw material. It would ^{also} make significant savings for FEOGA. (about 30 mio. u.a. at current rates).

41. To pay a refund or to give support in some other way, on a selective basis could clearly cause some administrative problems at the outset but these need not perhaps be as complicated as might appear since it is understood that a similar distinction is already made in certain member states for TVA purposes and of course, on a minor scale, a distinction is already made between starch intended for isoglucose production and other starches.

It is proposed therefore to maintain production refunds for starch used for non food applications and to suppress aid on starch used in the human and animal food sectors.

42. However, it should be borne in mind that as direct result of Community legislation, and not through any changes in market conditions, the starch industry has seen the prices of its basic raw materials increase since 1974 by almost 90 % in the case of maize and by just over 100 % in the case of wheat. These increases have come about through both higher threshold prices and, at the same time, lower production refunds. It is impossible for any industry to pass on and/or absorb increases of this magnitude in its input costs over such a short space of time. (In addition in some Member States national price control legislation has made it extremely difficult for industry to pass on these supplementary charges to the consumer). Consequently, total and sudden suppression of these aids in the food sector would be as difficult to justify (as long term preservation) and there is little doubt that some damage could be caused to the firms concerned.

Furthermore, investment and other financial and management decisions have to be taken a considerable period in advance. It would also be difficult to introduce a selective system as proposed together with the necessary administrative controls by the start of the next crop year on 1 August 1977.

43. In these circumstances, therefore, whilst it is proposed that a refund should be maintained for industrial starch at a level to be decided in due course, it is proposed that aid should be phased out gradually over a period of three years starting as from August 1978 along the following lines for non industrial applications:

1977/78: Status quo
1978/79: 75% of rate for 1977/78
1979/80: 50% of rate for 1977/78
1980/81: 25% of rate for 1977/78
1981/82: 0%

However, the Commission will keep under close surveillance the situation in the industry concerned and by 31 December 1979 will submit a report to the Council on the consequences of this phasing out and any problems which may arise; in the light of that report the Commission will, if necessary, submit further proposals.

A N N E X A

The Community Starch Industry

1. In the context of this report the Community starch industry is taken to mean manufacturers in the nine Member States of the following :

Maize Starch

Wheat Starch

Rice Starch

Potato Starch

Together, these industries produce about 3 mio. tons of starch a year which represents about 20 % of total world starch production.

2. Production refunds are only available for the manufacture of the above mentioned starches but starch can, of course, be obtained from a much wider range of products. It is a polysaccharide present in most plants but particularly in cereals and tubers. It is also present, for example, in peas and beans and is present even in wood. However, the major source both in the Community and over the world generally, is maize. In addition to the Community Maize is also the major source in the USA, Japan and Canada, for example. Wheat takes first place in Australia and New Zealand and manioc root in Thailand.

3. The vital determining factors in the choice of raw material are first, its availability and price and second, and equally important, the value of the by-products obtainable.

4. Maize holds a considerable advantage in this latter respect with a wide range of valuable by-products including maize oil, maize gluten and maize gluten feed *). Wheat starch production, on the other hand, gives rise to only one by-product of importance - wheat gluten - but frequently this particular by-product is of greater market value than the starch itself. The by-products resulting from the manufacture of rice and potato starch have a relatively low value.

5. The processes by which starch is obtained in the different sectors vary considerably, but all have the same objective - to separate the starch from the other constituents present in the raw material. The differences in processing tend to arise, first, from the variations in the proportion of starch contained in each raw material and, second, from the ease with

*) On average, 1 ton of maize should produce about :
621 kg starch, 27 kg maize oil, 200 kg maize gluten feed, 40 kg oil cake, 50 kg maize gluten, 22 kg other products and 40 kg production loss/moisture.

6. Maize Starch

The Maize Starch Industry is very concentrated, production being limited to about 15 to 20 plants in six of the Member States.

In terms of volume and value of goods produced (starch and starch based products) it constitutes by far the most important section of the Community starch industry as a whole.

7. The manufacturing process involved in extracting maize starch is relatively lengthy and involves several stages starting with a soaking or steeping of the grain for about 40 hours in water acidulated with sulphur dioxide in order to soften the grain. By-products are separated at subsequent stages in the process until a starch slurry is obtained which is either dried to produce dry starch or transferred direct to the appropriate plant for the production of glucose or modified starch.

8. Whilst it is the processing of maize into starch which creates the entitlement to the refund, in many cases production processes go beyond this stage. The maize starch industry produces a wide range of products and by-products including glucose, isoglucose, dextrose, glues, dressings and glazings for paper and textiles, gluten and maize oil. The industry's outlets thus cover a wide range of users : paper industry, pharmaceuticals, brewing, foundries, plastics, textiles, prepared foods (jams and preserves, soups, baby foods etc), confectionery, soft drinks, biscuits and animal feedingstuffs. It is estimated that the maize starch industry's total output is divided :

60 % food purposes

40 % non food

In this estimation the term food does not include pharmaceuticals or animal feed. In addition, a number of firms in the industry also make a range of starch based finished grocery products.

9. Wheat Starch

Compared with the Community's maize starch industry, the wheat starch sector is relatively small, producing only about 100 000 tons of starch a year from about 200 000 tons of wheat. There are wheat starch plants in all the Member States except Denmark and Luxembourg.

10. The process by which starch is obtained from wheat differs considerably from that for starch from maize. As it is the endosperm which is the most important part of the wheat grain in the context of starch extraction, and since flour milling separates the endosperm from the outer husk and germ wheat starch manufacturers tend to prefer to use wheat flour rather than the grain. However, since flour is a processed product with the brans etc. already separated, the only by-product normally obtained from wheat starch manufacture (processed from flour) is wheat gluten? Wheat gluten can be produced in vital or devitalised form. The former is prepared from wheat flour of breadmaking quality by a drying process and is commonly added to low protein flour to improve its baking characteristics. It is also used in breakfast cereals, pasta and petfoods and can often be sold at prices in excess of those obtainable for the starch itself. Its use in texturised vegetable protein is increasing strongly.

The actual process for obtaining starch normally starts with the flour being mixed with water to form a dough. After resting, separation of the starch is effected by washing in an extractor. At the same stage the gluten is also separated. Both the starch and the gluten are then dried separately.

11. Wheat starch and its derivatives are used like maize starch in a wide range of outlets - both food and industrial but primarily the latter.

12. Potato Starch

The Community potato starch industry is even more concentrated than that of maize starch but with an appreciably smaller total output - about 0.5 to 0.9 mio tons of starch from about 3 to 5 mio tons of Community grown potatoes compared with a maize starch output of about 2 mio. tons. It is produced in only 4 Member States : the Netherlands (about 65 % of Community production) France, Germany and Denmark. Plants are frequently run on a cooperative basis.

13. Aids were available to potato starch manufacturers and/or to starch potato growers before the introduction of the CAP. One of the prime reasons for this was the need to ensure a reasonable standard of living for potato growers in certain areas. This was particularly the case in the Netherlands where the soil in large areas of North East Holland is such that there is only a reduced possibility of growing crops other than starch potatoes. There are about 20 000 starch potato growers in the Community.

14. The production refund is paid to the starch manufacturer, and unlike the other starches the refund is paid on the starch and not on the raw material, only if a minimum price has been paid to the grower. The total return per hectare to the grower, which includes the production refund, can, in regions where alternative crops are feasible, affect the relative acreages sown to potatoes (for starch and human consumption), sugar beet or cereals.
15. The process by which starch is obtained from potatoes is relatively simple when compared with that for maize or even wheat starch. After washing, the potatoes are reduced to a slurry by a disintegrator. The slurry is mixed with water and subsequently passed through screens and separators after which the starch is dried. The by-product of the process has a relatively low value and is used mainly as cattle feed protein or as fertiliser. The process itself calls for very large quantities of water and thus presents serious problems regarding effluent.
16. Potato starch finds its outlets almost entirely in the industrial field.
17. Rice Starch
This is by far the smallest of the sectors producing only about 7 000 tons of starch from something over 10 000 tons of broken rice in only four of the Member States (Belgium, Italy, Germany and the Netherlands). It is used exclusively in the human food sector (largely in baby food).

ANNEX B

Starch Production Refunds 1975/1976 - Quantities on which refund was paid

'000 t

| | ITAL | DEUT | UK | IRL | NDL | FR | BELG | DK | LUX | EEC |
|---------------|-------|-------|------|-----|-------|-------|-------|------|-----|---------|
| Maize | 277.5 | 564.5 | 69.3 | - | 330.2 | 772.8 | 319.3 | - | - | 2,333.6 |
| Wheat | 15.2 | 44.9 | 12.3 | 1.5 | 44.0 | 15.1 | 25.3 | - | - | 158.3 |
| Potato Starch | - | 89.2 | - | - | 472.6 | 102.0 | - | 25.2 | - | 689.0 |
| Broken Rice | 2.1 | 2.0 | - | - | 2.1 | - | 4.1 | - | - | 10.3 |

Rates of Refund: 1975/1976

Maize: 10 ua/t
Wheat: 16.30 ua/t
Potato Starch: 16.10 ua/t (Maize Refund x 1.61)
Broken Rice: 12.30 ua/t.

TABLE I

Development of Supply Prices, Starch Production Refunds, Threshold Prices and World Market Prices for MAIZE (1967/68 - 1976/77)

| | <u>Supply Price</u> | <u>World Price</u> | <u>Threshold Price</u> | <u>Refund</u> ^{ua/t} |
|-------------------|---------------------|--------------------|------------------------|-------------------------------|
| 1967/68 July 67 | 68,00 | 59,98 | 88,38 | 20,38 |
| 1968/69 August 68 | 68,00 | 48,56 | 92,69 | 24,69 |
| 1969/70 August 69 | 68,00 | 58,98 | 93,69 | 25,69 |
| 1970/71 August 70 | 68,00 | 69,15 | 93,69 | 25,69 |
| 1971/72 August 71 | 68,00 | 59,64 | 94,55 | 26,55 |
| 1972/73 August 72 | 68,00 | 55,77 | 99,55 | 31,55 |
| January 73 | 68,00 | 80,22 | 102,95 | 34,95 |
| June 73 | 68,00 | 95,93 | 106,35 | 38,35 |
| 1973/74 August 73 | 68,00 | 101,84 | 100,65 | 32,65 |
| January 74 | 68,00 | 118,82 | 104,05 | 36,05 |
| June 74 | 68,00 | 106,25 | 107,45 | 39,45 |
| 1974/75 August 74 | 82,00 | 125,71 | 106,60 | 24,60 |
| October 74 | 87,45 | 132,91 | 112,05 | 24,60 |
| January 75 | 87,45 | 108,06 | 115,35 | 27,90 |
| April 75 | 103,10 | 93,39 | 118,65 | 15,55 |
| June 75 | 103,10 | 92,55 | 120,85 | 17,75 |
| 1975/76 August 75 | 113,40 ^x | 115,21 | 123,40 | 10,00 |
| January 76 | 120,40 ^x | 95,67 | 130,40 | 10,00 |
| June 76 | 127,40 ^x | 107,14 | 137,40 | 10,00 |
| 1976/77 August 76 | 121,10 ^x | 101,68 | 135,10 | 14,00 |
| January 77 | 128,20 ^x | 89,49 | 142,20 | 14,00 |
| June 77 | 135,30 ^x | 81,48 | 149,30 | 14,00 |

x - derived supply price

TABLE II

Development of Supply Prices, Starch Production Refunds, Threshold Prices and World Market Prices for WHEAT (1967/68 - 1976/77)

ua/t

| | <u>Supply Price</u> | <u>World Price</u> | <u>Threshold Price</u> | <u>Production Refund</u> |
|-------------------|---------------------|--------------------|------------------------|--------------------------|
| 1967/68 July 67 | 68,00 | 59,87 | 104,38 | 36,38 |
| 1968/69 August 68 | 68,00 | 57,07 | 104,38 | 36,38 |
| 1969/70 August 69 | 68,00 | 52,13 | 104,38 | 36,38 |
| 1970/71 August 70 | 68,00 | 53,66 | 104,38 | 36,38 |
| 1971/72 August 71 | 68,00 | 55,25 | 107,25 | 39,25 |
| 1972/73 August 72 | 68,00 | 51,25 | 111,60 | 43,60 |
| January 73 | 68,00 | 90,48 | 116,95 | 48,95 |
| June 73 | 68,00 | 93,32 | 122,30 | 54,30 |
| 1973/74 August 73 | 68,00 | 129,43 | 112,80 | 44,80 |
| January 74 | 68,00 | 193,85 | 118,15 | 50,15 |
| June 74 | 68,00 | 129,11 | 123,50 | 55,50 |
| 1974/75 August 74 | 82,00 | 146,21 | 119,00 | 37,00 |
| October 74 | 87,45 | 165,56 | 127,30 | 39,85 |
| January 75 | 87,45 | 120,27 | 130,60 | 43,15 |
| April 75 | 103,10 | 100,85 | 133,90 | 30,80 |
| June 75 | 103,10 | 85,59 | 136,10 | 33,00 |
| 1975/76 August 75 | 120,15 ^x | 118,73 | 136,45 | 16,30 |
| January 76 | 127,15 ^x | 107,48 | 143,45 | 16,30 |
| June 76 | 134,15 ^x | 111,34 | 150,45 | 16,30 |
| 1976/77 August 76 | 129,30 ^x | 99,50 | 149,30 | 20,00 |
| January 77 | 136,40 ^x | 72,03 | 156,40 | 20,00 |
| June 77 | 143,50 ^x | 66,24 | 163,50 | 20,00 |

x - derived supply price

TABLE III

Development of Supply Prices, Starch Production Refunds, Threshold Prices and World Market Prices for BROKEN RICE (1967/68 - 1976/77)

| | <u>Supply Price</u> | <u>World Price</u> | <u>Threshold Price</u> | <u>Production Refund</u> ^{ua/t} |
|----------------------|---------------------|--------------------|------------------------|--|
| 1967/68 September 67 | 83,00 | - | 113,30 | 30,30 |
| 1968/69 September 68 | 83,00 | - | 125,00 | 42,00 |
| 1969/70 September 69 | 83,00 | 89,96 | 125,00 | 42,00 |
| 1970/71 September 70 | 83,00 | 80,38 | 125,00 | 42,00 |
| 1971/72 September 71 | 83,00 | 74,60 | 125,00 | 42,00 |
| 1972/73 September 72 | 83,00 | 91,07 | 129,50 | 46,50 |
| January 73 | 83,00 | 122,84 | 129,50 | 46,50 |
| June 73 | 83,00 | - | 129,50 | 46,50 |
| 1973/74 September 73 | 83,00 | 208,44 | 130,85 | 47,85 |
| January 74 | 83,00 | 239,82 | 130,85 | 47,85 |
| June 74 | 83,00 | 224,12 | 130,85 | 47,85 |
| 1974/75 September 74 | 102,00 | 251,03 | 138,60 | 36,60 |
| October 74 | 109,07 | 254,79 | 145,67 | 36,60 |
| January 75 | 109,07 | 225,31 | 145,67 | 36,60 |
| April 75 | 127,40 | 176,05 | 145,67 | 18,27 |
| June 75 | 127,40 | 163,62 | 145,67 | 18,27 |
| 1975/76 September 75 | 148,15 ^x | 168,22 | 160,45 | 12,30 |
| January 76 | 148,15 ^x | 140,17 | 160,45 | 12,30 |
| June 76 | 148,15 ^x | 124,34 | 160,45 | 12,30 |
| 1976/77 September 76 | 165,20 ^x | 118,28 | 182,40 | 17,20 |
| January 77 | 165,20 ^x | 120,01 | 182,40 | 17,20 |
| June 77 | 165,20 ^x | 121,25 | 182,40 | 17,20 |

x - derived supply price

ANNEX D

EEOGA, Guarantee Section
Expenditure in the Cereals and Rice Sectors

mio. u.e

| | 1973 | 1974 | 1975 | 1976 | 1977 |
|-----------------------|---------|-------|-------|-------|-------|
| <u>Cereals</u> | | | | | |
| Export Refunds | 529,0 | 76,1 | 343,6 | 380,9 | 470,0 |
| Intervention of which | 510,7 | 323,6 | 277,2 | 229,0 | 293,3 |
| - denaturing premium | 131,3 | 17,3 | 0,4 | 0 | 0 |
| - production refund | 181,9 | 189,8 | 89,4 | 46,6 | 62,4 |
| - aid for durum wheat | 124,0 | 83,3 | 130,8 | 114,4 | 138,0 |
| TOTAL | 1.040,0 | 399,7 | 620,9 | 609,9 | 763,3 |
| <u>Rice</u> | | | | | |
| Export Refunds | 10,5 | 0,5 | 3,6 | 26,6 | 20,0 |
| Intervention | 0,9 | 0,7 | 0,6 | 0,3 | 1,0 |
| TOTAL | 11,4 | 1,2 | 4,2 | 26,9 | 21,0 |

ANNEX E

Potato Starch Production in the Community 1967-1976

| | | <u>Q = '000 tons</u> |
|------|-----|----------------------|
| 1967 | 509 | (100) |
| 1968 | 594 | (117) |
| 1969 | 576 | (113) |
| 1970 | 720 | (142) |
| 1971 | 783 | (154) |
| 1972 | 800 | (157) |
| 1973 | 776 | (153) |
| 1974 | 929 | (183) |
| 1975 | 698 | (137) |
| 1976 | 507 | (100) |

It will be seen that after increasing strongly in the early 70's, in 1976 Community production fell back to the level obtaining in 1967. This covers wide variations in different Member States. In the Netherlands, for example, production rose from about 350.000 tons in 1967 to about 640.000 tons in 1972 and has since fallen to about 360.000 tons. In France, on the other hand, production in 1976 was only about 60% of the 1967 figure.