*AgBioForum – Volume 3, Number 2&3 – 2000 – Pages 164-172*

# THE REGULATION OF rBST: THE EUROPEAN CASE

Dirk Brinckman[1]

In December 1999, the Council of the European Union (EU) decided to definitively ban possible use of recombinant bovine somatotrophin (rBST) in the European Union. In support of its ban it invoked animal welfare reasons. Prior to that decision, the European legislator had invoked different reasons, going from impact on the European milk policy, alleged consumer fears to possible carcinogenicity, with varying success. The concerns were either cleared by the competent scientific committee, i.e., the Committee of Veterinary Medicinal Products (CVMP) or considered by the European Courts to be unfounded. Despite the scientific finding of safety to public health, which should lead to the establishment of a maximum residue limit (MRL) for rBST and eventually to marketing authorization, the EU decided to ban rBST.

*Key words:* animal welfare; ban; bovine somatotrophin; European Union; maximum residue limit; moratorium; public health; safety.

At the Council of Ministers meeting held in Finland on December 16 and 17, 1999 a decision was passed down which prohibited the administration and marketing of recombinant bovine somatotropin (rBST) in the European Union. This decision has not been challenged in court so there is now a definitive ban on the use of rBST in the European Union. The ban came into effect on January 1, 2000. How did an outright ban of the technology occur? This paper provides a summary of the issues that led to the exclusion and prohibition of rBST in the European Union. A timeline of the events that unfolded is given, along with the reasons why rBST failed to gain European acceptance.

## Chronological Events Leading Up To The Ban On rBST

To understand how the EU got to its 1999 decision, one needs to take a historical perspective of the regulation of rBST in Europe. In the course of this description, the various policy objectives of the EU administration with respect to rBST are provided. This overview largely covers the last decade.

Regulation of rBST from 1987-1994

Recombinant bovine somatotropin is a veterinary medicinal product derived from biotechnology. Before a medicinal product can be commercialized in the European Union it has to be authorized. This general principle was laid down in the first Council Directive 65/65[1] on medicinal products and

[1]*Dirk Brinckman is a Senior Associate in the European Law Department of the Brussels-based lawfirm Liedekerke Siméon Wessing Houthoff.* *The text is based on a speech delivered in May 2000 at the University of Missouri during the conference titled, US/EU Policy Issues in Animal Production.* 

is equally applied to all veterinary medicinal products. Since rBST is considered a high technology medicinal product it is also subject to procedures laid down in Council Directive 87/22/EEC.[2] This directive approximates existing national measures relating to the marketing of high technology medical products in Europe, particularly, those derived from biotechnology. It should be noted for the sake of completeness that this directive has been repealed as of 1995. Such products are now subject to the authorization procedure provided for by Council Regulation 2309/93.[3] This more recent regulation also established the European Medicines Agency.

In 1987, in accordance with the procedure laid down by Council Directive 87/22, the companies Monsanto and Elanco requested marketing authorizations for their rBST-based products. These requests were referred to the Committee of Veterinary Medicinal Products (CVMP), for assessment of the quality, safety, and efficacy of the products. These three criteria are used to authorize medicinal products in the European Union.

*Regulation on maximum residue limits.*

In 1990, the EC Council adopted Regulation (EEC) 2377/90 laying down a European Community procedure for the establishment of maximum residue limits (MRLs) of veterinary medicinal products in foodstuffs of animal origin. Residues of veterinary medicinal products are defined as, "all pharmacologically active substances, whether active principles, excipients or degradation products, and their metabolites which remain in foodstuffs obtained from animals to which the veterinary medicinal product in question has been administered." (Council Regulation (EEC) 2377/90).

These MRLs define the maximum allowable concentration of residues resulting from the use of veterinary medicinal products. Previously, MRLs had been established on a national level, but in 1990 Regulation 2377/90 was passed introducing a Community-wide system of MRLs valid across the entire European Union.

Regulation No. 2377/90 makes provision for four annexes to be established in which a pharmacologically active substance, intended for use in veterinary medicines to be administered to "food-producing animals," may be included:

> Annex I, which is reserved for substances for which an MRL may be established following an assessment of the risks that this substance constitutes for human health;
>
> Annex II, which is reserved for substances that are not subject to an MRL;
>
> Annex III, which is reserved for substances for which it is not possible to establish an MRL definitively but which, without compromising human health, may be given a provisional MRL for a fixed period which is dictated by the time needed to carry out appropriate scientific studies and which can only be extended once;
>
> Annex IV, which is reserved for substances for which no MRL can be established because such substances constitute a threat to consumer health in any amount.

When a veterinary medicine manufacturer wishes to market a veterinary medicinal product that contains a pharmacologically active substance, it has to apply for MRL determination from the European Commission. This application is then further examined by the CVMP. In the case of rBST, the European Commission informed Elanco and Monsanto in 1990 that there was no need for them to submit a further application in order to obtain an MRL since their application had already been reported to the CVMP in accordance with the procedure under Council Directive 87/22 (1987).

*Moratorium on rBST from 1990 onwards.*

On April 25, 1990 the Council introduced, on a proposal from the European Commission, a moratorium on the marketing of rBST until December 31, 1990 (see Council Decision 90/218/EEC). The stated purpose of this moratorium was to grant the European Commission more time to examine the various effects of rBST. In the preamble to this decision it was indicated amongst others that the marketing of rBST might have a significant impact on the productivity of milk production and, hence, a significant impact on the European Community's milk policy. It was also indicated that despite the progress that had been made on the scientific examination of rBST by the CVMP, further time was needed to complete all the scientific studies.

On February 4, 1991 the moratorium was extended to the end of December 1991 (see Council Decision 91/61/EEC). Again the Council decided that rBST needed further scientific study as the initial time period granted had been too short. A Gentleman's Agreement between the Member States was also reached not to authorize rBST for use. Indeed, there had been a lapse of time between the provisional end of the first moratorium and its extension. Therefore, it was necessary to ensure that all Member States were complying with the Council's decision.

On February 10, 1992, the second moratorium was again extended until December 31, 1993 by a Council decision (see Council Decision 92/98/EEC). In this decision, the scientific review period for rBST was cited as being insufficient. Research into the effects of rBST on human health was being undertaken but had only partially been completed and sufficiently representative results had not been obtained. For the first time, potential impacts on animal health and animal welfare were mentioned. At that time, the CVMP was still examining the dossier following the request for the marketing authorization in 1987.

*CVMP clears the way for rBST.*

On January 27, 1993 the CVMP issued a positive opinion in favor of rBST.[4] The opinion of the CVMP was as follows,

> The use of Optiflex 640® [Elanco's product, or Somatech, Monsanto's product] in dairy cattle does not present any risk to the health of consumers of meat or milk obtained from treated animals resulting from residues of somidobove or the possible presence of insulin-like growth factors in meat or milk. The product may be safely accepted for use without any withdrawal period for meat or milk...
>
> The Committee considers that it is not necessary for the protection of public health to establish maximum residue limits for somidobove, the active ingredient in the product, and it therefore recommends that somidobove should be included in the list of substances not subject to maximum residue limits in Annex II...

Moreover as regards aspects of animal health and animal welfare, both opinions very clearly stated that,

> Subject to the detailed observations given below, the Committee considers that the administration of Optiflex 640 [or Somatech] to dairy cattle does not present any undue risk to the health or welfare of the treated animals.

The opinion provided detailed support following a thorough scientific analysis by the CVMP that the use of rBST in dairy cattle was safe and did not present any undue risk to animals. There was no evidence of a significant increase in mastitis related to treatment, and the injection of cattle with rBST only led to minor reactions that were considered not to cause discomfort to the target animal.

*Moratorium on rBST extended to 1994.*

Despite the positive CVMP opinion concerning both the safety of rBST for humans and animals, the European Commission proposed that the marketing of rBST should still be prohibited. This was conveyed in a Commission communication dated November 16, 1993 to the Council and the European Parliament (European Commission, 1993). The European Commission justified its position on its right (in exceptional cases) to take into account other criteria than those of quality, safety, and efficiency when deciding on a possible authorization of veterinary medicinal products. It referred to possible consumer reactions to rBST and to possible negative impacts on the Common Agriculture Policy (CAP) as milk quotas were used as a policy tool to maintain farm incomes within the dairy sector. It was also stressed that the prohibition of rBST would be a purely internal EU matter since imports of rBST dairy products to the European Union were unaffected.

In line with the European Commission's proposal, in December 1993 the Council extended the deadline of the moratorium to December 1994 (see Council Decision 93/718/EEC). In its decision, the European Council indicated that it had not been possible to examine all the implications of rBST for the European Union and, therefore, it was necessary to extend the period for further examination.

Regulatory Policy with Respect to rBST from 1994 to 1999

The moratorium that had been extended throughout the early 1990s was once again extended until December 30, 1999 (see Council Decision 94/936/EC). The decision to extend the moratorium further was amongst others based on the inherent conflict of the increase in milk production from the use of rBST with the existing milk quotas. It was also impacted by the United States decision to authorize the marketing of rBST and the consequences of that decision for international trade. Despite the clear opinion of the CVMP, the Council indicated that further studies needed to be carried out in order to determine the effects of rBST on mastitis and associated metabolic disorders in dairy cattle. Hence, the effects of rBST on the well being of dairy cows were to be further examined. It was also stressed that the export of rBST products to third countries would be allowed, and that imports of products from rBST treated cows into the EU would still be unaffected.

*rBST goes to court.*

The European Commission, following the adoption of the positive position of the CVMP, informed Elanco and Monsanto that their rBST products would be included in Annex II of Regulation 2377/90 and, thus, that no MRL needed to be established for BST. However, one year after the notification from the European Commission, rBST was still not included under Annex II. In 1996, therefore, both Elanco and Monsanto started court actions. They formally requested that the European Commission take the necessary measures needed to include rBST on the list of substances not subject to an MRL. The European Commission in two decisions, one in 1996 and one in 1997, rejected the requests of Monsanto and Elanco. The European Commission indicated that the MRL for BST could not be defined because of the existence of a moratorium on its use. Both Elanco and Monsanto introduced court actions before the European Court of First Instance against the decisions of the European Commission rejecting their requests to include rBST in Annex II of Regulation 2377/90. In its pleadings before the Court, the European Commission concurred with the companies and the CVMP that rBST was a safe product, but it indicated that the moratorium measures taken with respect

to rBST were based on internal CAP and consumer protection concerns. The European Commission believed that there would be a negative consumer reaction to rBST, which could further harm the beef sector. The beef sector was, as indicated by the Commission already suffering from the fall out of the BSE ("mad cow disease") crisis.

In June 1998, the European Court of First Instance rendered its judgment on the case brought by Elanco. The Court noted that the European Commission was, following the positive opinion of the CVMP under an obligation to include rBST under Annex II of Regulation 2377/90. The Court also considered that the provisional moratorium on rBST (in place until the end of 1999) was not relevant to the inclusion of rBST in Annex II. The fact that rBST would not be marketed immediately was not relevant to its inclusion in Annex II. The only requirement for its inclusion was that it should attempt to be used in the future. The Court noted that the procedure for the establishment of an MRL under Regulation 2377/90 was independent and distinct from the procedure for the issue of marketing authorization. The objective of determining MRLs as laid down in Regulation 2377/90 is to protect public health, whereas it was clear from the case-file that the moratorium on BST was introduced for socio-economic reasons.

The Court also allayed the European Commission's fear that the inclusion of rBST in Annex II to Regulation 2377/90 would give rise to confusion on the part of consumers. However, the marketing of the product would continue to be prohibited as long as the moratorium of rBST was enforced. No appeal was brought against that judgment so it became *res judicata*. Monsanto had also brought an action against the Commission decision rejecting the request to include rBST in Annex II, which led the Court of First Instance to the same conclusions as in the Elanco case. Against this latter judgment, however, the French Republic launched an appeal which is currently pending before the Court -- the outcome of this appeal is unknown at this time.

*The European Commission raises health concerns about rBST.*

The European Commission did not implement the Courts' judgments. Monsanto and Elanco then undertook further court action. Interestingly in its pleadings the Commission raised for the first time since applications were made for the authorization of BST in the European Union possible public health concerns with regard to rBST. The Commission indicated that a link could exist between Insulin Growth Factor 1 (IGF-I) and cancers in man. The Commission also recalls that the the Council had asked the Commission to entrust a working party of independent scientists with the task of assessing the effects of using rBST, in particular as regards the impact of the use of this product on the incidence of mastitis (i.e., an animal welfare problem and not a public health issue). These studies were entrusted to two committees -- the Scientific Committee of Veterinary Measures Relating to Public Health (SCVPH) and the Scientific Committee on Animal Health and Welfare (SCAHAW). The reports of these committees became available in the course of 1999.

The report on the animal welfare aspects prepared by the SCAHAW (1999) concluded that,

> BST use causes a substantial increase in levels of foot problems and mastitis and leads to injection site reactions in dairy cows. These conditions, especially the first two, are painful and debilitating, leading to significantly poorer welfare in the treated animals. Therefore from the point of view of animal welfare, including health, the Scientific Committee on Animal Health and Animal Welfare is of the opinion that BST should not be used in cows.

According to the general conclusions of the report on public health aspects of the use of BST, prepared by the SCVPH, dated March 15-16, 1999, there might be some public health risks related to

the use of rBST, especially related to increased IGF-I levels. Concerning IGF-I and its relation to cancer the following is however indicated in the SCVPH document,

> Elevated plasma IGF-levels may be considered as a predictive marker of breast and prostate cancer. However, it should be emphasised that all these epidemiological studies refer to a time interval in which exposure to dairy products originated exclusively from non-rBST treated animals. Whether or not the use of rBST will modify the level of risk remains to be substantiated.

It nevertheless also indicated that the available scientific data in this respect was incomplete. Whether or not rBST modifies the medical health risks remains to be substantiated.

*The US FDA counters health concerns.*

The US Food and Drug Administration (FDA) issued on April 13, 1999, an analysis of the European report, indicating that the findings with respect to the IGF-I levels did not appear to be consistent with the current state of scientific knowledge. According to the FDA, numerous independent researchers and scientific committees had examined the data of dietary exposure to proteins and milk from rBST. The data provided evidence that the amount of IGF-I, and its truncated forms, excreted in milk following the administration of rBST is safe for all consumers including infants. The FDA ruled that additional exposure data were not necessary.

The FDA's determination that food products derived from cows treated with rBST are safe for consumers has been supported by numerous scientific and regulatory bodies. The Joint FAO/WHO Expert Committee on Food Additives (JECFA), which consists of an international panel of experts in the field of toxicology and chemistry in animal drug residues, has concluded it safe (see the report of the 50$^{th}$ meeting held in Rome between February 17-26, 1998). Also, the report of the Royal College of Physicians and surgeons of Canada (Expert Panel on Human Safety of rBST) concluded that no public health issue was involved with the use of rBST.

The above-mentioned SCVPH and SCAHAW reports were submitted to the CVMP by the European Commission in 1999 asking the CVMP to review its 1993 opinion on BST in their light. Further to this request, the CVMP reviewed and confirmed its previous opinion that the substance was safe and that it should therefore be included in Annex II of Regulation 2377/90.

*The European Commission proposes Annex II status for rBST.*

On December 8, 1999 the European Commission announced its decision to include rBST in Annex II. In its press release, (IP/99/954) the European Commission (1999a) indicated that the decision was based on the positive report of the CVMP, and in compliance with the Court of First Instance's ruling imposing the Commission to take the necessary measures to include BST in Annex II of Regulation 2377/90. The European Commission indicated that as no risks to human health were determined, rBST would be included in Annex II of Regulation 2377/90. The European Commission's proposal was submitted to a vote of the Standing Committee (a committee composed of representatives of the different Member States of the European Union) on February 4, 2000. However, the Standing Committee did not vote in favor of the Commission's proposal so that the Commission could not adopt a formal Regulation including rBST in Annex II to Regulation 2377/90. In accordance with the procedure laid down in Regulation 2377/90, the issue has been referred to the Council, and the Council examined the Commission proposal . The Commission proposal was submitted to a vote by the Council of the European Union in early September, 2000. No majority in favor could be found, so

that still no MRL has been adopted for rBST. However, the inclusion of rBST under Annex II is a separate issue from the moratorium placed on its marketing within Europe.

The Ban on rBST in Europe from 1999 Onwards

As indicated above, a new decision as to the moratorium on rBST had to be taken before December 31, 1999 in light of all the available data and new scientific studies. On October 26, 1999 the European Commission (1999b) issued press release IP/99/758 announcing that it had adopted a proposal to ban the use of rBST in European Union from January 1, 2000. This decision was based on animal health and welfare concerns. The Scientific Committee on Animal Health and Welfare's report (SCAHAW, 1999) was cited in support of the decision. Specifically, rBST was determined to increase the risk of clinical mastitis, as well as the duration of treatment of mastitis in cattle. It was seen to increase the incidence of foot and leg disorders in cattle, to adversely affect reproduction, as well as to induce severe reactions at the injection site. The press-release makes also reference to Council Directive 98/58/EC) concerning the protection of animals kept for farming purposes which states in point 18 of the annex that,

> …no other substance with the exception of those given for therapeutic or prophylactic purposes shall be administered to an animal unless it has been demonstrated by scientific studies of animal welfare or established experience that the effect of the substance is not detrimental to the health or welfare of the animal.

The press-release indicates in this respect that, "BST is not used in cattle for therapeutic purposes, but only to enhance milk production. Therefore it results from the opinion of the SCAHAW that BST should not be used in dairy cows." (Council Directive 98/58/EC, 1998, p.23).

The European Commission argued, therefore, that rBST is not used in cattle for therapeutic purposes but only to enhance milk production. The European Commission did not base its arguments on public health concerns. In its news release the European Commission did not mention the CVMP opinions of 1993 and 1999 confirming that rBST is a safe product. The press release, however, does make reference to the report that raised public health concerns about rBST. It suggested that significant gaps exist on scientific knowledge on the possible effects of the use of rBST on public health and asked for further studies. The European Commission concluded that it is aware that scientific uncertainty remains about rBST and further scientific studies are needed.

On December 17, 1999 the Council imposed a definitive ban on the administration and marketing of rBST within the Member States of the European Union. This ban came into effect on January 1, 2000. The production of rBST, however, within the European Community for the purposes of its export to third countries is unaffected by the ban. The companies buying, producing, or marketing rBST-based substances must keep special registers. These registers must be made available to the government authorities at their request. Imports within the European Community of meat and dairy products derived from rBST treated cows remain also unaffected by the ban.

## Conclusions

The regulatory policy of the European Union in regard to rBST has evolved over the period 1987 to 2000. Different reasons have been used at various points in time to justify the moratorium and, ultimately, the ban on rBST. First, internal agricultural policy reasons were in vogue, then fears about a consumer backlash, then public health concerns, and, finally, animal health and welfare concerns. As far as the latter justification is concerned, the EU is following the same line of policy as

adopted by Canada on the issue. It is nevertheless of interest to point out that at the occasion of the adoption of the decision on the ban of BST, the European Parliament issued a press release confirming its full support of the Council Decision, but equally indicated that,

> No major buyer or producer/exporter of milk, except the United States, authorises it [rBST], in the current surplus situation, its use would increase farming costs and would run counter to the guidelines set out in the Common Agricultural Policy. EU financial resources must not be used to encourage the manufacture, processing or export of BST.

So there still remains doubt whether animal health and welfare grounds were the real basis which led to the ban.

The issue of MRL or Annex II status still remains to be resolved. The fixing of Annex II status on rBST would provide a clarification and confirmation of EU policy. It would also clarify that rBST is safe for public health. It would conform with the current approach which allows imports of milk and products from rBST treated animals into the EU. One can otherwise hardly see the logic of an approach that states that the product is unsafe for consumers in the EU if it is administered within the EU, but it is safe if it comes from animals treated in other countries. It would indeed confirm that the reason for rBST's ban relates to animal health reasons.

## Endnotes

[1]See Council Directive 65/65/EEC of January 26, 1965 on the approximation of provisions laid down by law, regulation or administrative action relating to medicinal products, 1965, No. 22, p. 369.

[2]Council Directive 87/22/EEC of December 22, 1986 on the approximation of national measures relating to the placing on the market of high technology medical products, particularly those derived from biotechnology, OJ 1987, No. L 15, p. 38.

[3]Council Regulation (EEC) No. 2309/93 of July 22, 1993 laying down European Community procedures for the authorization and supervision of medicinal products for human and veterinary use and establishing a European Agency for the Evaluation of Medicinal Products, OJ 1993 No. L 214, p. 1.

[4]CVMP opinion of January 27, 1993, as also cited in Lilly v. Commission (1998).

## References

Council Decision 90/218/EEC, OJ No. L 116 (May 8, 1990).

Council Decision 91/61/EEC, OJ No. L 37 (February 4, 1991).

Council Decision 92/98/EEC, OJ No. L 39 (February 15, 1992).

Council Decision 93/718/EEC, OJ No. L 332 (December 31, 1993).

Council Decision 94/936/EC, OJ No. L 366 (December 20, 1994).

Council Decision, OJ No. L 331 (December 17, 1999).

Council Directive 65/65/EEC, OJ No. 22 (1965).

Council Directive 87/22/EEC, OJ No. L 15 (1987).

Council Directive 98/58/EC, OJ No. L 221 (1998).

Council Regulation (EEC) 2309/93, OJ No. L 214 (1993).

Council Regulation (EEC) 2377/90, OJ No. L 224 (1990) amended by Council Regulation 1308/1999, OJ No. L 156 (1999).

European Commission (EC). (1993, September 16). COM No. 331, final.

European Commission (EC). (1999a). No need for maximum residue limit for risk-free BST (Press Release No. IP/99/954). Brussels: European Commission. Available on the World Wide Web: http://europa.eu.int/comm/pr_en.htm.

European Commission (EC). (1999b). Commission proposes ban on market release and us of BST in the Union as of 1 January 2000 (Press Release No. IP/99/758). Brussels: EC. Available on the world wide web: http://europa.eu.int.

Lilly v. Commission, case T-120/96, par. 25, Judgment of the European Court of First Instance, (June 25, 1998).

Scientific Committee on Animal Health and Animal Welfare (SCAHAW). (1999). Animal welfare aspects of the use of bovine somatotrophin. Available on the World Wide Web: http://europa.eu.int/comm/food/fs/sc/scah/out21_en.html .