# **Position Paper of Industrieverband Agrar (IVA)**

### on the Proposal for a Regulation of the European Parliament and Council relating to cadmium in fertilizers

# of 1. August 2003

# 22. September 2003

The Industrieverband Agrar (IVA) and its members entirely share the position of the European Fertilizer Manufacturer's Association (EFMA) that a precautionary approach should be taken to cadmium. Following a voluntary agreement, the German fertilizer industry reduced the cadmium concentration of phosphate fertilizers strongly over the last two decades by selecting carefully the raw materials. Today's economical forces and technical means offer very limited potential for further reduction of the cadmium content.

Those members of IVA producing phosphate fertilizer will be adversely affected by the Draft Proposal presented by the European Parliament and Council on 1. August 2003 (as from now: the Draft Proposal). Therefore, IVA fully supports the position paper of EFMA and opposes strongly the Draft Proposal. Particular emphasis is put on the following aspects:

# • The risk of cadmium soil accumulation due to mineral phosphate fertilizer application is overestimated in the Draft Proposal. In Germany, this risk is almost negligible.

According to the federal agricultural research center Bundesforschungsanstalt für Landwirtschaft (FAL) in Braunschweig, the average fertilizer cadmium input in agricultural soils in 1980 was 4,5 g Cd ha<sup>-1</sup> a<sup>-1</sup>, assuming a cadmium concentration of 65 mg kg<sup>-1</sup>  $P_2O_5$  and a phosphate application rate of 70 kg  $P_2O_5$  ha<sup>-1</sup> a<sup>-1</sup> (Sauerbeck, 1985). Today, phosphate fertilizer use in Germany is about 19-20 kg  $P_2O_5$  ha<sup>-1</sup> a<sup>-1</sup>. Based on a cadmium concentration of 60 mg Cd kg<sup>-1</sup>  $P_2O_5$ , recent fertilizer cadmium input is only about 1,2 g Cd ha<sup>-1</sup> a<sup>-1</sup>. With no cadmium output this would correspond to an accumulation of cadmium in the upper soil layer (0-30 cm) of 0,1 mg kg<sup>-1</sup> soil within 360 years. In fact, average cadmium concentration in phosphate fertilizers is markedly below 60 g Cd kg<sup>-1</sup>  $P_2O_5$  and removal with the harvested crop as well as leaching cause an annual output of about 1 g Cd ha<sup>-1</sup>. Thus, accumulation of cadmium in soils due to mineral phosphate fertilizer is almost negligible. In comparison to phosphate fertilizer other cadmium sources are of importance, the average atmospherical cadmium deposition in Germany is about 3.9 g Cd ha<sup>-1</sup> a<sup>-1</sup> (LABO, 1997). Much higher cadmium loads into the agricultural soil may be caused by sewage sludge application. According to the German sewage sludge regulation, the legal limit of cadmium which may be added to agricultural land is 16.7 g Cd ha<sup>-1</sup> a<sup>-1</sup>. The Council Directive 86/278/EEC, accepts 150 g Cd ha<sup>-1</sup> a<sup>-1</sup>.

• The Proposal's assumptions on the future availability and the costs of decadmiation – as described in the Extended Impact Assessment - are speculative and show no relation to available process technology. It is obvious, that the negative impacts on the fertilizer industry are extremely underestimated.

Most of the imports of phosphate to Western Europe come from developing countries in North Africa, where the cadmium level in phosphate rocks is 60 mg Cd kg<sup>-1</sup> P<sub>2</sub>O<sub>5</sub> and higher. After imposing a limit of under 60 mg Cd kg<sup>-1</sup> P<sub>2</sub>O<sub>5</sub>, the export possibilities of North African suppliers will depend on the availability of a technically and economically feasible decadmiation technology. The actual state of decadmiation for fertilizers is at a very early stage of experimental development. Present technology is focused on the extraction of cadmium from phosphoric acid. Comparable decadmiation processes for products directly derived from rock - such as ground rock phosphate, single super phosphate, triple super phosphate - and NPK's produced in the Odda process are not available. The Draft Proposal, relying on the ERM report, estimates additional costs of decadmiation of 8 Euro per ton. All cost data are just speculative and show no relation to the actual costs incurred using today's cheapest process available in food/feed industry. The on-costs of this process are about 100 Euro per ton P<sub>2</sub>O<sub>5</sub>.

It can be stated that an economic feasible decadmiation technology is not coming up in foreseeable future. Thus, a cadmium limit below 60 mg Cd kg<sup>-1</sup> P<sub>2</sub>O<sub>5</sub> means a monopoly supplier status for Kola apatit phosphate rock (Russia) and a break down of the phosphate supply from North Africa to Western Europe. The actual production capacity of the remaining suppliers, which is primarily Kola, is far away from replacing the imports from North Africa. Moreover, increasing demand within the former Sovjet Union (FSU) will also absorb increasing capacity of the local producers. A higher price for phosphate fertilizers will have a negative impact on the phosphate fertilizer use to the German agriculture, depending on the additional costs and the profit margins of the farmers. The Draft proposal would have a negative impact on the competitiveness and the sustainability of German and European agriculture. In the impact assessment the negative effects on phosphate fertilizer, price increase and fertilizer use are underestimated.

#### • The proposed cadmium limits are not based on an appropriate risk assessment. It is important, that all cadmium sources are taken into account.

IVA agrees with the SCTEE's opinion, that "a limit for cadmium in phosphate fertilizers should be based on a risk assessment approach and should take all cadmium sources into account". The objective in the Draft Proposal is exclusively focused on soil accumulation, without considering the level of risk for human health and environment. IVA emphasis, that critical cadmium inputs into agricultural soils are not a problem of mineral phosphate fertilizer. As already mentioned, much higher cadmium loads into the soil can be caused by other sources like sewage sludge and other recycling products. A risk assessment requires an appropriate consideration of all important factors influencing cadmium accumulation (i.e. soil characteristics, climate, cadmium inputs by athmospherical deposition, phosphate fertilizer, recycling products, slurry etc.).

There is increasing concern already among scientists and the official advisory service about the under use of fertilizer phosphate. An increasing number of farmers is already mining their soils for phosphate and thus endangering the fertility status of their soils.

It can be concluded, that the benefits of a limit below 60 g Cd kg<sup>-1</sup>  $P_2O_5$  bear no relation to the costs for industry and agriculture. Thus, the Draft Proposal is extremely burdensome and could hit the German fertilizer industry hard.

IVA accepts a maximum limit of cadmium in phosphate fertilizer of 60 mg Cd kg<sup>-1</sup> P<sub>2</sub>O<sub>5</sub> (which would correspond to an average cadmium concentration in phosphate fertilizers of less then 40 mg Cd kg<sup>-1</sup> P<sub>2</sub>O<sub>5</sub>), but does not see the necessity to decide on lower limits at this moment. More balanced and consistent regulations on sewage sludge and other recycling products will be an important factor for a further reduction of the total cadmium input. IVA supports the EFMA proposal, to form a consortium with participation of the European Commission and rock phosphate producers to do further research on decadmiation technology. Moreover, further research is necessary on cadmium inputs and cadmium accumulation in soils.