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Innspill til EFSAnet maishybrid 1507 x 59122 (EFSA/GMO/NL/2005/28)

D, 10.05 Interactions of the GM plant with non-target organisms

The sensitivity to the CRY34Ab1/CRY35Ab1 binary toxins should be determined for Coleoptera species representative of agricultural environments in Europe. Since the native toxin is specific to chrysomelid pests, at least the effects on other Chrysomelidae should be evaluated. Based on the results of the above study, adequate data on field trials in Europe may be necessary to conclude on the risk assessment of dossier EFSA/GMO/NL/2005/28. Except for a single field trial in Spain in 2005, non-target studies assessing the effects of CRY34Ab1/CRY35Ab1 toxins provided by the applicant, refers to American conditions and species. It would be of particular interest to know if any endangered or threatened Coleoptera species use maize as a food source, or feed on other organisms that may accumulate CRY-toxins.

7.9. Allergenicity
7.9.2 Assessment of allergenicity of the whole GM plant or crop

Scientific studies, also very recent ones, have shown that the Cry1Ac protein is a potent systemic and mucosal adjuvant, which is an enhancer of immune responses. The GMO Panel of the Norwegian Scientific Committee for Food Safety find it difficult, based on the available data, to assess whether kernels from maize 1507 x 59122 may cause more allergenic reactions than food and feed from unmodified kernels. As the different Cry proteins are closely related, and in view of the experimental studies in mice, the GMO Panel finds that the likelihood of an increase in allergenic activity due to Cry1F, Cry34Ab1 and Cry35Ab1 protein in food and feed from maize 1507 x 59122 cannot be excluded. Thus, the Panel's view is that as the adjuvant effect of Cry1F, Cry34Ab1 and Cry35Ab1 with reasonable certainty cannot be excluded, the applicant in relation to a possible adjuvant effect of Cry1F, Cry34Ab1 and Cry34Ab1 must comment upon the mouse studies showing humoral antibody response of Cry1A proteins. Further, although Cry1F, Cry34Ab1 and Cry35Ab1 protein is rapidly degraded in gastric fluid after oral uptake, there is also the possibility that the protein can enter the respiratory tract after exposure to e.g. mill dust. Finally, rapid degradation is no absolute guarantee against allergenicity or adjuvanticity.

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