



Final Health and Environmental Risk Assessment of Genetically Modified Soybean A5547-127

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Authors' contributions

This work was carried out in collaboration between all authors. The opinion has been assessed and approved by the Panel on Genetically Modified Organisms of VKM. All authors read and approved the final manuscript.

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Grey Literature

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ABSTRACT

Soybean A5547-127 expresses the phosphinothricin - N - acetyltransferase (pat) gene from the soil bacterium *Streptomyces viridochromogenes*. The encoded PAT protein confers tolerance to the active herbicidal substance glufosinate-ammonium. Bioinformatics analyses of the inserted DNA and flanking sequences in soybean A5547-127 have not indicated a potential production of putative harmful proteins or polypeptides caused by the genetic modification. Genomic stability of the functional insert and consistent expression of the pat gene have been shown over several generations of soybean A5547-127. With the exception of the intended changes caused by the trans-genetically introduced trait, data from field trials performed in the USA show that soybean A5547-127 is compositionally, morphologically and agronomically equivalent to its conventional counterpart and other commercial soybean varieties. A repeated dose toxicity study with rats and a

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nutritional assessment trial with broilers have not revealed adverse effects of soybean A5547-127. These studies indicate that soybean A5547-127 is nutritionally equivalent to and as safe as conventional soybean varieties. The PAT protein produced in soybean A5547-127 does not show sequence resemblance to known toxins or IgE-dependent allergens, nor has it been reported to cause IgE-mediated allergic reactions. Soybean is not cultivated in Norway, and there are no crosscompatible wild or weedy relatives of soybean in Europe.

Based on current knowledge the VKM GMO Panel concludes that with the intended usage, there are no discernible safety concerns associated with soybean A5547-127 regarding human or animal health or to the environment in Norway.

Keywords: *GMO; soybean (Glycine max); A5547-127; EFSA/GMO/NL/2008/52; herbicide tolerance; pat; food and feed safety; environmental risk; Regulation (EC) No 1829/2003; VKM; risk assessment; Norwegian Scientific Committee for Food Safety; Norwegian Environment Agency.*

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COMPETING INTERESTS

Authors have declared that no competing interests exist.

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