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NOVEL, RENEWABLE PLANT-OIL BASED ULV FORMULATION CONTAINING S-METHOPRENE LARVICIDE FOR POST-HARVEST APPLICATION ON CEREALS AND THE DEVELOPMENT OF A VERSATILE DUAL APPLICATION TECHNOLOGY

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Abstract Stored product pests are not typically called urban pests, however because of urbanisation and the concentration in towns and cities of the population world-wide, silos and other types of grain warehouses and mills are also nearer to cities or are even built right into the cities. One of the greatest problem of grains - regardless what and where it is grown, harvested, kept and processed, is the post-harvest losses that can reach 10 to 35 % due to insects, mildew, rodents or simply lack of proper technology. Another growing concern is insecticide resistance. The physical loss is materialized into financial loss of growers, processors and at the end of the line to consumers, too. A nine company member European consortium was formed in 2020 who have prepared a Horizon 2020 application to achieve several targeted aims, which are: To provide a positive response to the challenge of grain storage management, To develop a novel plant protection product larvicide based on S-methoprene against a number of grain insects, To develop a novel sprayer equipment for a versatile dual application of ULV formulations, To develop an early warning information system on plant protection product resistance. In stored product protection the number of available insecticides are diminishing. S-methoprene (IGR = Insect Growth Regulator) based formulation(s) represent a new class of insecticide. S-methoprene is a larvicide and only effects the immature stages of insects. Its toxicity, environmental and human profile is favourable and has been on the EU biocidal market for a considerable time. The application was accepted and awarded by a considerable fund. In October 2020 the project named novIGRain has kicked-off and will last for five years.

Key words Stored grain, infestation, S-methoprene, larvicide, resistance