**Case study No. 1**

**GMP (intended food/feed uses)**

* Organism: oilseed rape (**OSR**)
* Trait(s): **fatty acid pattern**
* Genetic modification: trait and **herbicide tolerance** of agronomic relevance
* Conditions of release: **seeds** are transported and processed to oil (food) and rapeseed cake (feed)

**Information with respect to exposure**

GMP

* *organism (recipient, parental plant, comparator):* oilseed rape
* *differences of GMP compared to comparator:* fatty acid pattern, tolerance to herbicide authorized and used in EU plant production

Interaction of GMP with environment

* crop is cultivated in EU
* weed characteristics (ruderal flora, regular volunteer, seed dormancy)
* weak hybridization potential to several sexually compatible (?weed) species

**Exposure characterization of GMP for intended uses**

**Task 1**: How can a **plausible pathway to harm** be informed by the identified technical/biological elements of the exposure pattern

*Instruction: identify and discuss important local conditions (probabilities) and possible triggers*

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| Plausible pathway | What? (processes)  Where? (receiving environments) | How much? (probability of local occurrence)  Possible triggers? |
|  | **A** flowering plants grow from lost seeds (ruderal area) |  |
| **B** vertical gene flow to crop plants (field) |  |
| **C** dormant seeds (field) |  |
| **D** weedy OSR plants (field) |  |
| **E** OSR plant survives use of respective herbicide (field) = harm |  |

**Contribution of identified exposure characteristics in risk assessment**

**Task 2**: Describe the contribution of identified exposure characteristics in the formula quantifying the Environmental risk given as: Risk = Hazard x Likelihood of hazard arising

*Instruction: conclude for probabilities discussed for pathway OSR 1 in Task 1 (prepared scheme)*

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| P&I | Pathway OSR1 | |
| Contribution of identified exposure characteristics:  **exposition based probability** |  | Very low (not detectable) |
|  | Low |
|  | Medium |
|  | High |
| Formula quantifying the environmental risk:  Risk = Hazard x **Likelihood** of hazard arising | | |