# ENVIRONMENTAL RISK ASSESSMENTS (ERAs) FOR GRAIN IMPORT SCENARIOS

## The goals of all GM crop biosafety regulations globally are the same – to protect human/animal health and the environment.

Environmental risk assessments (ERAs) help regulators understand the nature and magnitude of any risks a GM crop may pose to the environment. ERAs should be conducted using a science- based approach: problem formulation is used to develop plausible scientific hypotheses on how the GM crop may result in environmental harm; data and other available information are used to test those hypotheses.

During problem formulation, potential routes of exposure and potential environmental hazards that could lead to unacceptable environmental effects are identified. This is based on information is gathered about the biology of the GM crop, the expected receiving environment, and characteristics of the trait introduced via the genetic modification.

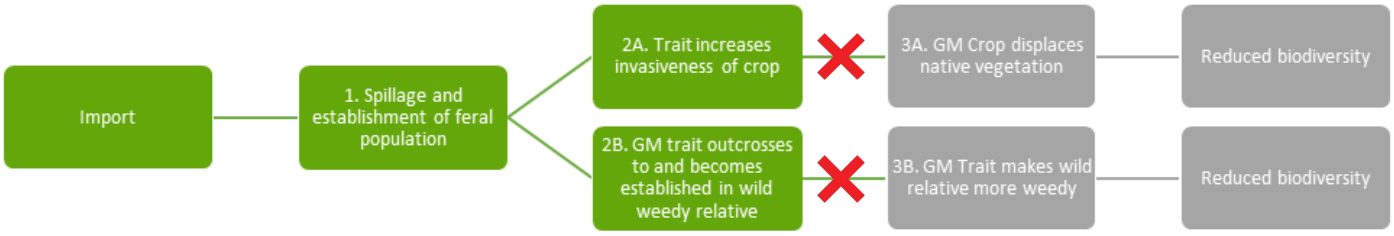
## Scientific advances in molecular biology and genetics allow for a more focused and streamlined approach to the evaluation of GM crop compositional safety.

The information used for risk assessment under commercial cultivation scenarios (high exposure) is almost always sufficient for the risk assessment under grain import scenarios (low exposure).

Local studies are not warranted in the country of import unless the import environment differs from the cultivation environments such that the GM trait could increase the weediness or invasiveness potential of the crop or a sexually compatible wild relative. **To date there is no evidence that increased weediness or invasiveness of any crops or their wild relatives has occurred as a result of either commercial cultivation or import of a GM crop.**

## RISK = HAZARD X EXPOSURE

**Risk only occurs when there is exposure to something hazardous.**
**For grain import scenarios, both the exposure and the hazard are low**




Risk Scenario when grain containing an approved trait for GM food/feed is imported

**1.** Grain spillage at port or during transport rarely leads to establishment as most spillage is expected to occur in industrial and disturbed habitats which are not conducive to plant establishment, and which are unlikely to remain unmanaged.

**2a.** Crops are bred to not be invasive and GM traits that increase invasiveness are not agronomically favored **(low hazard)**.

**2b.** Outcrossing may occur only if wild weedy relatives are in the same place, flowering at the same time and if GM crop is fertile **(low exposure).**

**3a./3b.** Not relevant based on cultivation ERA data and experience. GM traits are unlikely to increase weedy or invasive characteristics of the plant. If the risk assessment data generated for cultivation countries does not indicate any increase in weedy or invasive characteristics, and there is no indication that the import environment differs notably from the cultivation environments in a way that would alter the effect of the genetic modification, it is unlikely that the GM trait will persist in feral populations of the crop species or wild relative and create a biologically significant selection advantage to increase weediness or reduce biodiversity.