CONSUMER SAFETY TO PESTICIDE RESIDUES

UNDERSTANDING HAZARD VS RISK

HAZARD

PRINCIPLE ASKS:

How and which amount of this substance causes harm?

RISK

PRINCIPLE ASKS:

Considering the exposure, is it likely that actual levels cause harm?

The same applies to pesticide residues. A substance might be hazardous at high doses but completely safe at trace levels found on food. Risk assessments focus on actual risk, not theoretical hazard.

LET'S TAKE AN EXAMPLE.

A HAZARD

describes the intrinsic properties of a substance. Scientists conduct extensive long-term and short-term toxicology studies following strict European standards to determine these properties.



THIS IS EXEMPLIFIED HERE WITH A CAMPFIRE

HEALTH BASED GUIDANCE VALUES (HBGV)

define the amount of pesticide residue which can be ingested via diet daily, over a lifetime and on a single day without any harm for the consumer.



HBGV are derived from levels at which no adverse effects occur in toxicology studies, **then reduce that level at least 100-fold as a precautionary safety margin to protect everyone, including vulnerable groups.**



SAFE LEVEL x AT LEAST 100

SAFE DISTANCE
HEALTH BASED GUIDANCE VALUES

MRL EXCEEDANCE

describes the case when higher residues are found than expected. Reasons could be wrong application of pesticides, or in case of imports, that no trade facilitating MRLs were established.

This is exemplified here by someone being beyond the MRL line and hence closer to the hazard than expected, but still within the safe distance.

MAXIMUM RESIDUE LEVEL (MRL)

describes the maximum expected residues after application of a pesticide according to the authorised label instructions. An MRL is statistically derived from residue data, ensuring what reaches your plate won't have excessive residue levels.

This is exemplified here by a line indicating the maximum expected proximity to the fire.

MAXIMUM EXPECTED PROXIMITY

OBSERVED DISTANCE RANGE UNDER INTENDED CONDITIONS

DIETARY EXPOSURE TO OBSERVED RESIDUES

in experimental trials describes the amount of pesticides which may land on our plates when pesticides are used as authorized. The calculation is based on residue levels from field trials and considers various EU food consumption patterns.

This is exemplified here by the distance the group was found to be from the fire. As soon as the distance is further than the safe distance, food is considered safe to eat.

ACTUAL DISTANCE RANGE

MONITORING RESULTS

The EU Member States conduct **MONITORING** for pesticide residues in food, and the number of samples and compliance rates is outstanding worldwide. The results allow to calculate the actual dietary exposure to pesticide residues.

This is exemplified here with a group at the actually determined distance from the fire. The distance to the fire and to the defined safe distance is usually very high.

PROPOSED GENERAL DISTANCE

DEFAULT MRL

is a legally binding MRL which is not set based on residue data but set on the LOQ or a fixed level of 0.01 mg/kg.

This is exemplified here with a line at a fixed level decided by policy, without considering data or toxicity. In this case it would be overly conservative to only allow residues beyond the proposed general distance.