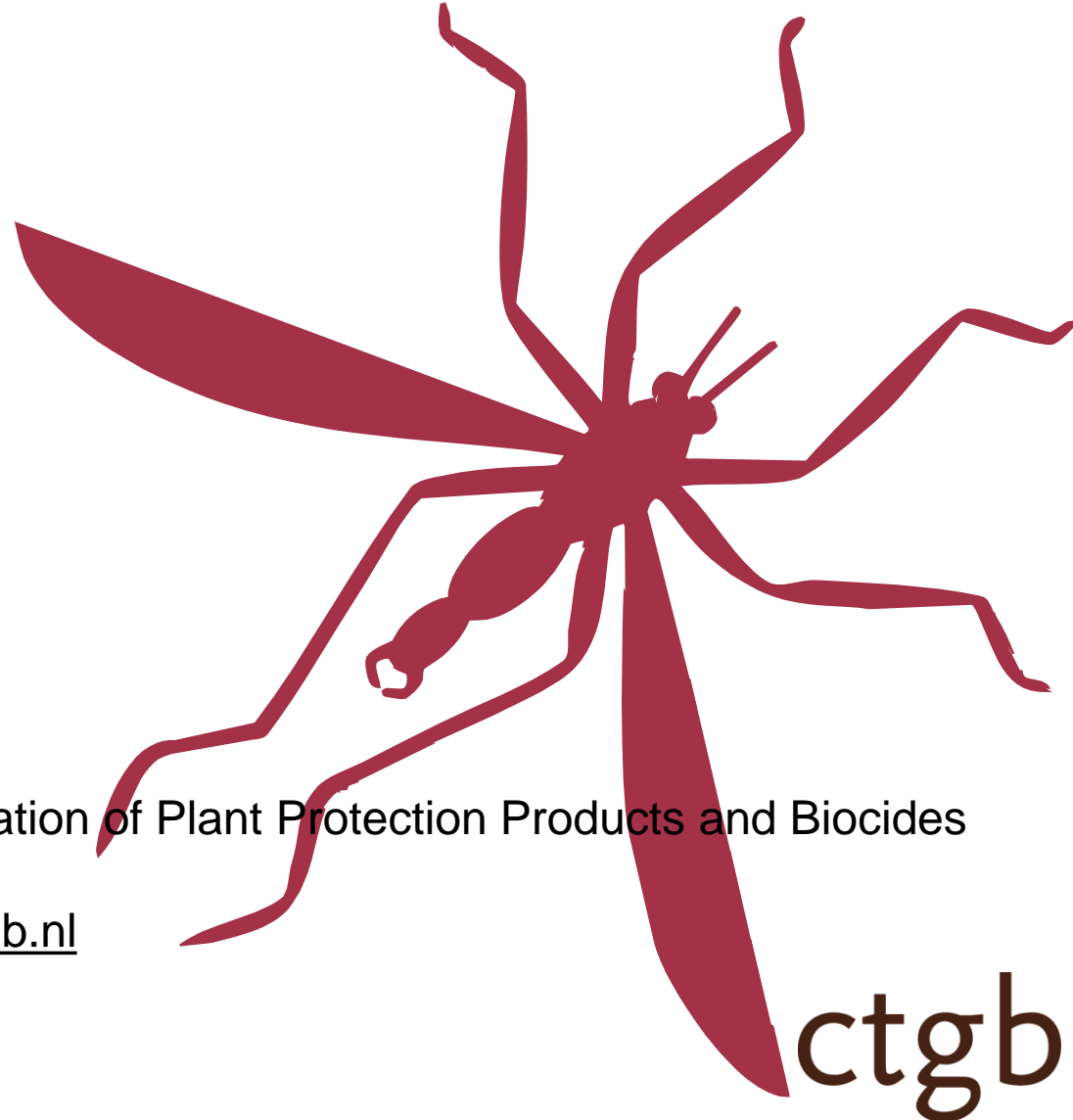




Summary on reference values



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Outline

- Reference values for consumers
 - ADI
 - ARfD
- Where to find them?



ADI

- The amount of a substance that can be consumed on a daily basis over a lifetime without appreciable health risk.
- Based on chronic exposure studies

$$\text{ADI} = \text{NOAEL}_{\text{chronic}} / \text{safety factor (100)}$$



ARfD

- “An estimate of a chemical substance in food (or drinking water), expressed on a bodyweight basis, that can be ingested over a short period of time, usually during one meal or one day, without appreciable health risk to the consumer.”



ARfD



- The following categories of toxicological alerts should suggest the need to establish an ARfD:
 - Lethality after administration of a single low dose orally
 - Developmental effects
 - Clinical signs, other pharmacological effects, or effects on target organs observed early in studies with repeated doses
 - Acute neurotoxicity
 - Hormonal or other biochemical alterations observed in studies with repeated doses, which might conceivably be elicited by a single dose.





ARfD

- Generally based on subacute (14-28 days) or short-term (90-day) studies
 - Acute studies are usually not appropriate to determine NOAELs for critical effects as currently performed.
 - Other studies also possible, e.g. neurotoxicity studies

ARfD = NOAEL / safety factor (100)



Sources for ADI & ARfD



- Pesticide Properties DataBase:
 - Established by the EU-project Footprint
 - Contains 650 active substances and 200 metabolites
 - Updated regularly
 - Contains EU harmonised reference values



<http://sitem.herts.ac.uk/aeru/footprint/en/index.htm>





Sources for ADI & ARfD



- Pesticide Properties DataBase

<http://sitem.herts.ac.uk/aeru/footprint/en/index.htm>

- EU Review reports

http://ec.europa.eu/sanco_pesticides/public/index.cfm?event=activesubstance.selection&a=1



- EFSA conclusions

<http://www.efsa.europa.eu/en/pesticides/pesticidesdocs.htm>

- JMPRs

<http://www.inchem.org/pages/jmpr.html>

