NAME OF THE ORGANISM: Acarida (1ACARO)

GENERAL INFORMATION ON THE PEST

Name as submitted in the project specification (if different to the preferred name):

Acarina
Pest category:

Acari **1- Identity of the pest/Level of taxonomic listing:**
Is the organism clearly a single taxonomic entity and can it be adequately distinguished from other entities of the same rank?

Yes
Is the pest defined at the species level or lower?:

No
Can listing of the pest at a taxonomic level higher than species be supported by scientific reasons or can species be identified within the taxonomic rank which are the (main) pests of concern?

* Yes: Vegetable seed sector

Is it justified that the pest is listed at a taxonomic rank below species level?

Not relevant
Conclusion:

* Candidate: Vegetable seed sector

Justification (if necessary):

In the RNQP Questionnaire, LV supported regulation at this taxonomic level as several species of pests are considered to be important and cause similar damage. CZ suggested to only list the following species: Acarus siro, Lepidoglyphus destructor and Tyrophagus putrescentiae, the only reason being that these species are currently listed in their national regulation. Later, in July 2017, ESA confirmed that they would support deregulation: seeds are not considered to be the main pathway, economic impact is acceptable (not enough humidity in normal storage conditions).
In a publication, twenty-one types of seed samples (mainly vegetable and grass seed) were analysed in laboratory and 60% arthropod infestation (14 Acarina, 5 Psocoptera species) was found. The seeds of beet, grass, onion, radish and lettuce were most sensitive to infestation. Acarus siro was a dominant mite pest from all aspects (frequency, abundance and seed diversity infestation), followed by Tyrophagus putrescentiae, Tarsonemus granarius and Lepidoglyphus destructor. Cheyletus eruditus was a dominant predatory mite. Lepinotus patruelis was the most frequent psocid pest (Kucerova Z., Horak P., 2004). **2 – Status in the EU:**

Is this pest already a quarantine pest for the whole EU?

No
Presence in the EU:

Yes
Conclusion:

candidate

HOST PLANT N°1: Zea mays (ZEAMX) for the Vegetable seed sector.

Origin of the listing:

1 - Vegetable seed sector: Council Directive 2002/55/EC
Plants for planting:

Seeds **3 - Is the pest already listed in a PM4 standard on the concerned host plant?**

No
Conclusion:

Evaluation continues **4 - Are the listed plants for planting the main\* pathway for the "pest/host/intended use" combination? (\*: significant compared to others):**

No
Conclusion:

Not candidate

Justification:

Acarida is an order of the class Arachnida, including pests, such as the mites, ticks and itch-insects. Acarus siro is the most abundant and frequent mite to infest stored-food products, including seeds and bulbs, causing allergies and transmitting mycotoxin producing fungi. It is often associated with Lepidoglyphus destructor and Tyrophagus putrescentiae. The major damage to whole cereal grains and other seeds, for example oilseed rape, linseed, carrot, beet, maize and pulses, is caused by the preferential attacks that mites make on the germ, which causes losses in germination viability (Plantwise, 2016; Ždhacek˜árková, 1996). Mites will also occur in the natural environment in plant debris, discarded seed or in soils. Their presence in harvested seed for further sowing can therefore have a detrimental effect due to lack of germination or vigour, therefore seed is a pathway. However the SEWG considered that, if maintained under appropriate storage conditions, seed should not be a significant pathway for mites compared to other pathways. **CONCLUSION ON THE STATUS:**

Disqualified: If maintained under appropriate storage conditions, seed should not be a significant pathway for mites compared to other pathways. **8 - Tolerance level:**
Is there a need to change the Tolerance level:

Yes
Proposed Tolerance levels:

Delisting. **9 - Risk management measures:**
Is there a need to change the Risk management measure:

Yes
Proposed Risk management measure:

Delisting. **REFERENCES:**

* Kucerova Z & Horak P (2004) Arthropod infestation in samples of stored seeds in Czech Republic. Czech Journal of Genetics and Plant Breeding 40, 11–16;
* Lukas J, Stejskal V, Jarosik V, Hubert J & Zdarkova E (2007) Differential natural performance of four Cheyletus predatory mite species in Czech grain stores. Journal of Stored Product Research 43, 97–102;
* Plantwise Technical Factsheet (2016) on Flour mite (Acarus siro). Available online at <http://www.plantwise.org/KnowledgeBank/Datasheet.aspx?dsid=2522>;
* Pulpan J & Verner PH (1959) Mites infesting stored grain and their control (Acari). Bohemia Centralis (A – Scientiae naturales) 1, 1–120;
* Zdarkova E & Pulpan J (1973) Low temperature storage of the predatory mite Cheyletus eruditus for future use in biological control. Journal of Stored Product Research 9, 217–220;
* Ždhacek˜árková E (1996) The effect of mites on germination of seed. Ochrana Rostlin 32, 175-179;