





ISTA (International Seed Testing Association) Reference Pest List (RPL)

Seed pathway for pest dissemination: ISTA Reference Pest List, a bibliographic resource in non-vegetable plant species.

For details on the context and methodology, please refer to Denancé and Grimault (2022), EPPO Bulletin (see here: ) as well as to Denancé and Malabarba (2025), in Seed Testing International, (see here )

New version (v15; release 2026-01-09): four species of the *Caricaceae* (Papaya), *Rubiaceae* (Coffee), *Lythraceae* (Pomegranate) and *Rutaceae* (Citrus) families.

Seed testing is key in preventing movement of pests by seeds and should be conducted for detection of pests identified based on defined scientific criteria. The ISTA Reference Pest List (ISTA-RPL) summarises scientific knowledge on the possible dissemination of pests through seeds in non-vegetable plant species. The ISTA-RPL is centered on seed-borne and seed-contaminating pests (bacteria, fungi, oomycetes, viruses, nematodes), and more particularly aims at identifying pest-host combinations where seed is a pathway of dissemination. Other diseases or disorders (i.e., invasive plant species or insects) are not covered.

As defined in the International Standard for Phytosanitary Measures on the international movement of seeds (ISPM 38), (i) a **seed-borne pest** is ‘a pest carried by seeds externally or internally that may or may not be transmitted to plants growing from the seeds, causing their infestation’; and (ii) a **seed-transmitted pest** is ‘a seed-borne pest that is transmitted via seeds directly to plants growing from these seeds, causing their infestation’. **Pests** can also be **transferred** to the environment of seeds (e.g., soil, water) and then infest a host plant under natural conditions. For those pests (not seed transmitted) and those with vertical transmission, **seed is one pathway** of dissemination and establishment in new geographic areas.

The project covers more than 50 non-vegetable species from 25 botanical families, including cereals, legumes, oilseeds, forest trees, and fruit trees. The ISTA-RPL will be updated regularly as soon as a list is finalised.

- **Updated lists (45 host species):** *Amaranthaceae* (amaranth), *Amaryllidaceae* (garlic), *Araucariaceae* (*Araucaria* spp.), *Asteraceae* (sunflower, nyger), *Brassicaceae* (rapeseed), *Caricaceae* (papaya), *Cucurbitaceae* (ash gourd), *Cupressaceae* (false cypress, red cedar), *Fabaceae* (alfalfa, chickpea, lentil, lupin, soybean), *Fagaceae* (chestnut, oak), *Juglandaceae* (walnut), *Lythraceae* (pomegranate), *Malvaceae* (cotton, roselle), *Moringaceae* (drumstick tree), *Pinaceae* (cedar, Douglas firs, firs, pines, spruces), *Poaceae* (barley, millets, oat, rice, sorghum, triticale, wheat), *Rosaceae* (almond, apple, Apricot, cherry, peach, pear, plum), *Rubiaceae* (coffee), *Rutaceae* (*Citrus* spp.), *Salicaceae* (poplar), *Solanaceae* (potato).

- **Ongoing investigations:** *Anacardiaceae* (pistachio nut), *Annonaceae* (custard apple), *Apiaceae* (celery, coriander, dill, parley, parsnip), *Asteraceae* (safflower), *Brassicaceae* (rocket), *Fabaceae* (black wattle, peanut, red sandalwood), *Ginkgoaceae* (ginkgo), *Lamiaceae* (basil, sage), *Myrtaceae* (eucalyptus), *Pedaliaceae* (sesame), *Poaceae* (panicgrass), *Sapindaceae* (maple).

It also includes a list of pests that were included in the latest version of the Annotated list of seed-borne diseases (4th ed.; 1990), but which have no evidence to be seed-borne or seed-contaminating pests in the scientific literature. They will be regularly checked for information.

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Selection and review of articles: some were initially selected by Christine HENRY and Alex JEBB (FERA, UK), Terry AVELING, Nicole JOUBERT, Godfrey KGATLE, Edgar MANGWENDE, Gloria MUKWIRIMBA and Renaan THOMPSON (University of Pretoria, South Africa). Since 2018, the scientific literature has been screening by successive people: Nicolas DENANCÉ (v1 to v9), Giulia FARINARO (v10, v11), Caroline BELLENOT (v10 to V14) and Eduardo GÁLVEZ (v15). They coordinate international experts, with recognized expertise in seed pathology from examination offices, seed companies and academic research laboratories who are involved in evaluating of the selected articles.

Validation: The ISTA Seed Health Committee checks and validates the content of the lists before its publication on the ISTA website.

ISTA Reference Pest List v15.0
Updated: new species

Host Species	Pests	Seed Pathway
COTTON	21	6
DOUGLAS FIR	11	3
FIR	8	1
PINE	14	2
SPRUCE	5	2
ALMOND	3	1
APPLE	5	3
APRICOT	11	1
CHERRY	8	3
PEACH	4	2
PEAR	4	0
PLUM	4	0
CHICKPEA	10	7
LENTIL	12	8
LUPIN	11	8
POTATO (TRUE SEED)	9	2
CHESTNUT	10	0
OAK	10	0
POPLAR	2	1
WALNUT	14	1
FALSE CYPRESS	0	0
RED CEDAR	0	0
CEDAR	0	0
ASH GOURD	2	0
ROSELLE	2	1
GARLIC CLOVES	14	0
NYGER	0	0
MILLETS	23	4
DRUMSTICK TREE	9	0
AMARANTH	2	2
PAPAYA	9	0
COFFEE	6	0
POMEGRANATE	7	1
CITRUS	15	1

HOSTS: 45 | PESTS: 511
SEED PATHWAY: 180 | LITERATURE: 755