

## **Supplementary material:**

The wheat curl mite (*Aceria tosichella*, Prostigmata: Eriophyidae) could establish in South Africa

### **Detailed methods - Pathways of introduction**

The UN Comtrade database (<https://comtrade.un.org/>, accessed 7 August 2019) provides country level data on the value of goods traded (value of imports and exports in USD) between countries all over the world, with these goods classified into predefined categories. Import data for South Africa for the period 2014 to 2018 were obtained from this database, with data for nine types of imports downloaded. These nine imports (Table S1) were selected as they are related to the three potential pathways of introduction for the genotypes MT-1 and MT-8 of wheat curl mite (see main paper for details on the three pathways). The downloaded data includes yearly information on the value of the goods imported from each exporting country. The data from exporting countries where wheat curl mite does not occur were excluded from the analysis. The exporting countries that were included in the analysis either had an occurrence record from the literature for wheat curl mite (see main paper for details) or were listed on either the Centre for Agriculture and Bioscience International (CABI) website (<https://www.cabi.org/>, accessed 20 May 2019), or the Global Biodiversity Information Facility (GBIF) website (<https://www.gbif.org/>, accessed 21 May 2019) as a country where wheat curl mite occurs. For each type of import, the import values across the years was averaged for each exporting country. The average import value was used as a proxy for the quantity of the commodity imported.

These data were used to determine if the potential pathways of introduction for the genotypes MT-1 and MT-8 of wheat curl mite link South Africa to parts of the world where wheat curl mite occurs, and to get an indication of the prominence of these pathways. Therefore, these data give an indication of whether wheat curl mite genotypes MT-1 and MT-8 could be introduced to South Africa, and if so how and from where.

Table S1: The types of imports for which data were downloaded from the UN Comtrade database. The imports with an asterisk (\*) were grouped together for the analysis.

Type of import	Abbreviation
Trees and other plants, live; bulbs, roots and the like; cut flowers and ornamental foliage	Live Plants
Cereals; wheat and meslin, durum wheat, seed	Wheat Seed
Cereals; maize (corn), seed	Maize Seed
Seeds of forage plants; Kentucky blue grass ( <i>Poa pratensis</i> L.) seeds, of a kind used for sowing	Forage Seed*
Seeds of forage plants; rye grass ( <i>Lolium multiflorum</i> Lam., <i>Lolium perenne</i> L.) seeds, of a kind used for sowing	Forage Seed*
Vegetables, alliaceous; onions and shallots, fresh or chilled	Onions
Vegetables, alliaceous; garlic, fresh or chilled	Garlic
Cereals; wheat and meslin, durum wheat, other than seed	Wheat
Cereals; maize (corn), other than seed	Maize