

PROPERTY RISK ANALYSIS FOR ARGENTINE ANT DISPERSAL

For each question, there are a series of multiple choice answers provided. Choose the answer that best describes the situation on the property being inspected. Answers are ordered from lowest risk to highest risk. Where you feel there are potentially two or more answers applicable within a single property, choose the answer that represents the highest risk. For example, in question 1 there may be goods stored on expansive sealed areas (answer c), and other product on gravel (answer d), so you would circle “d” for this question.

Site & Storage Risk Questions

CODE	QUESTION/ANSWER	SCORE
1	Where are commodities/products stored before leaving the site?	
a	No goods distributed from site (e.g. lawyers, accountants offices)	0.1
b	Entirely inside a shop or closed warehouse	1
c	Some product stored outside, but on a sealed surface and >5 m from nearest ant habitat (e.g. bare earth, garden, lawn, organic waste area, open cracks)	3
d	Stored outside on gravel or sealed surface <5m from nearest ant habitat	4
e	Stored on or immediately adjacent to bare earth, weedy, or overgrown areas	5
2	On average, how long do goods stay on the site before leaving (i.e. dwell time)	
a	No goods distributed or office documents only (e.g. lawyers, accountants office)	0.1
b	Same day turn-around (e.g. fast courier, wof station)	1
c	1 – 3 days	3
d	4 – 7 days	4
e	>7 days	5
3	How tidy are the property grounds?	
a	Clean and tidy, no overgrown/neglected areas, no rubbish piles, and neighboring properties also tidy.	0.5
b	Clean and tidy, no overgrown/neglected areas, no rubbish piles, but neighboring properties noticeably less tidy.	1
c	Generally tidy, but boundaries overgrown or some light weedy areas present, and/or some rubbish lying about edges.	1.5
d	Generally untidy, with weedy areas around yard and noticeable rubbish around buildings and boundaries.	2
e	Very untidy, plenty of discarded packaging, rubbish and/or old machinery, and overgrown areas.	2.5
4	How much good ant habitat is on the site?	
a	Almost entirely sealed with concrete/bitumen, no gardens or lawn	0.5
b	Mostly sealed with concrete/bitumen, but some small garden areas present (<5%)	1
c	Substantially sealed, but gardens/ lawn/unsealed ground covering 5 –20%	1.5
d	Unsealed ground/ gardens/ lawn occupy >20%, but <50% of property	2
e	Unsealed earth/gardens/or lawn occupy 50% or more of property	2.5

5	Is ant control undertaken on the site? (Ask the site manager)	
a	Yes, professional pest controllers undertake treatments for ants at regular intervals	1
b	Yes, professional pest controllers are contracted to undertake treatment of ants when we notice ants on site	2
c	Yes, when ants are a problem we sometimes lay bait ourselves over most of the property	3
d	Yes, we sometimes lay a few baits around the building or use fly spray on ant trails	4
e	No, the ants don't worry us; or we don't have ants	5

Commodity Risk Questions

Here we refer to a “commodity” in the broadest sense, meaning whatever objects are distributed out from a site in the course of conducting their business. This does not need to be sold items (it could be food parcel donations, hired items, or serviced items). The commodity could be the vehicles that go in and out of a mechanic’s garage for servicing, or it could be a product like a plastic widget or loaf of bread. There are two additive aspects to the commodity: the commodity itself, and the typical packaging system that goes with it. However, sometimes packaging IS the commodity. For example, a freight yard may transport sea containers to other sites around the region, and in this case the “commodity” is the sea container, and this has no other packaging around it (you cannot be expected to know the contents of all containers passing through a freight yard). In another case, a manufacturer of furniture may commonly send product in sea containers, so in this case the commodity is the furniture, and the sea container is recorded as packaging.

CODE	QUESTION/ANSWER	SCORE
6	What packaging materials leave the site?	
a	No packaging, office envelopes, or plastic shopping bags only	0.1
b	Factory sealed commercial cartons	2
c	Unsealed cartons or plastic crates	3
d	Wooden boxes/crates	4
e	Pallets or shipping containers	5
7	What is the highest risk profile commodity leaving the property? (See Guide)	
a	Negligible risk	2
b	Low risk	4
c	Medium risk	6
d	High risk	8
e	Very high risk	10

Argentine ant population score

On entering the property, inspectors should have an initial walk around (without significant ground disturbance) to look for obvious ant trails/activity. If little or no activity is obvious, begin physically searching for Argentine ant nests by scraping back patches of bark or soil on gardens, pulling back grass from concrete edges, lifting debris, hitting retaining walls etc. Do this for up to 5 person-minutes, stopping earlier if more than 3 Argentine ant nests are found. Select the answer in question 8 that best describes the level of ant activity present.

CODE	QUESTION/ANSWER	SCORE
8	How abundant are Argentine ants on the property?	
a	<i>None seen on property after 5 person-mins searching, and none on adjacent properties either.</i>	1
b	<i>None seen on property after 5 person-mins searching, but present on neighboring properties (determine later).</i>	2
c	<i>No obvious activity, but a few (1-3) small nests found around property after 5 person-mins of searching</i>	3
d	<i>No or small areas of minor activity seen, and/or more than 3 nests found by searching up to 5 person minutes</i>	4
e	<i>Activity/trails easily seen around property without searching for nests</i>	5

Another way to interpret these answers is:

- a. Probably absent and no immediate risk of invasion from neighboring properties
- b. Probably absent, but potential risk of invasion from neighboring properties
- c. Argentine ants present but in very low numbers still
- d. Argentine ants present in low numbers, but potential for rapid growth
- e. Moderate to high numbers of Argentine ants on site.

How is the overall property dispersal risk score calculated?

Add the scores for each of questions 1-5, this is the “site risk score” (S).

Add the scores for questions 6 and 7, this is the “commodity risk score” (C).

An overall property risk score (PRS) is calculated as follows:

$$PRS = S \times C \times A \times 100 \frac{S}{S(max)} \times \frac{C}{C(max)} \times \frac{A}{A(max)}$$

Where:

- PRS = overall property risk score
- S = site risk score
- C = commodity risk score
- A = Argentine ant population score
- S(max) = maximum possible site risk score
- C(max) = maximum possible commodity risk score
- A(max) = maximum possible Argentine ant population score

This calculation will provide an overall risk score for each property (100 = maximum risk possible), and the tool will then allocate an Absolute Risk Category (ARC) to properties as defined in a selected profile, for example:

- Very high (≥ 75)
- High (60 – 74)
- Moderate (40-59)
- Low (<40)

A second automatic calculation in the risk assessment tool will provide a Relative Risk Score for each property in comparison with other properties, with 0 being the lowest risk and 100 the highest risk property. The top 10% of relative risk scores turn red.

This will allow immediate comparison of Absolute and Relative scores so we can firstly highlight potential areas of difference indicating adjustments to the underlying risk profile model may be needed, and secondly, allow prioritization of management activity in relatively small infestations in which only a small number of properties are infested in sensitive regions but none have a very high absolute risk score.

Commodity Risk Profiles for Question 7

The risk profiles take into account both the type of commodity moving out of the site and the condition of it. For example, new vehicles (as found in a car sales yard), have a lower risk profile than used vehicles (as might go through a panel-beating shop or mechanics yard) because a used vehicle could easily have crumbs of food under the seats or organic matter in the boot that could attract ants to move into it. This table can be added to and further refined with time and experience.

a	Negligible risk
	<ul style="list-style-type: none">• Documents and standard mail• New books• Hot food and drinks• Jewellery
b	Low risk
	<ul style="list-style-type: none">• New appliances and electrical products• Clean plastic goods• New clothes, bedding, curtains and materials• Cosmetics• Used books
c	Moderate risk
	<ul style="list-style-type: none">• Groceries and beverages• Fresh fruit and vegetables (without soil)• Smaller used appliances (e.g. laptops, radios)• New vehicles, boats, trailers and caravans• New machinery and vehicle parts• Treated timber• New, clean landscaping supplies (paving blocks, edge blocks, garden ornaments)• New building materials• Used clothing, bedding, curtains, and material• New camping and sports equipment• Used kitchenware
d	High risk
	<ul style="list-style-type: none">• Used motor vehicles, boats, trailers and caravans• Used machinery and vehicle parts• Used whiteware and larger electrical appliances (e.g. microwave ovens, televisions)• Used furniture and house parts• Used camping and sports equipment• Used barbecues• Untreated timber• Wooden pallets• Shipping containers• Beehives• Bulk animal feed

e Very high risk

- Soil or items with significant soil attached (e.g. translocated trees, dirty earth-moving machinery, old foundations, fence posts, rocks, retaining wall blocks)
- Bark mulch
- Greenwaste and compost
- Hay bales and straw
- Potted plants
- Ponga logs