

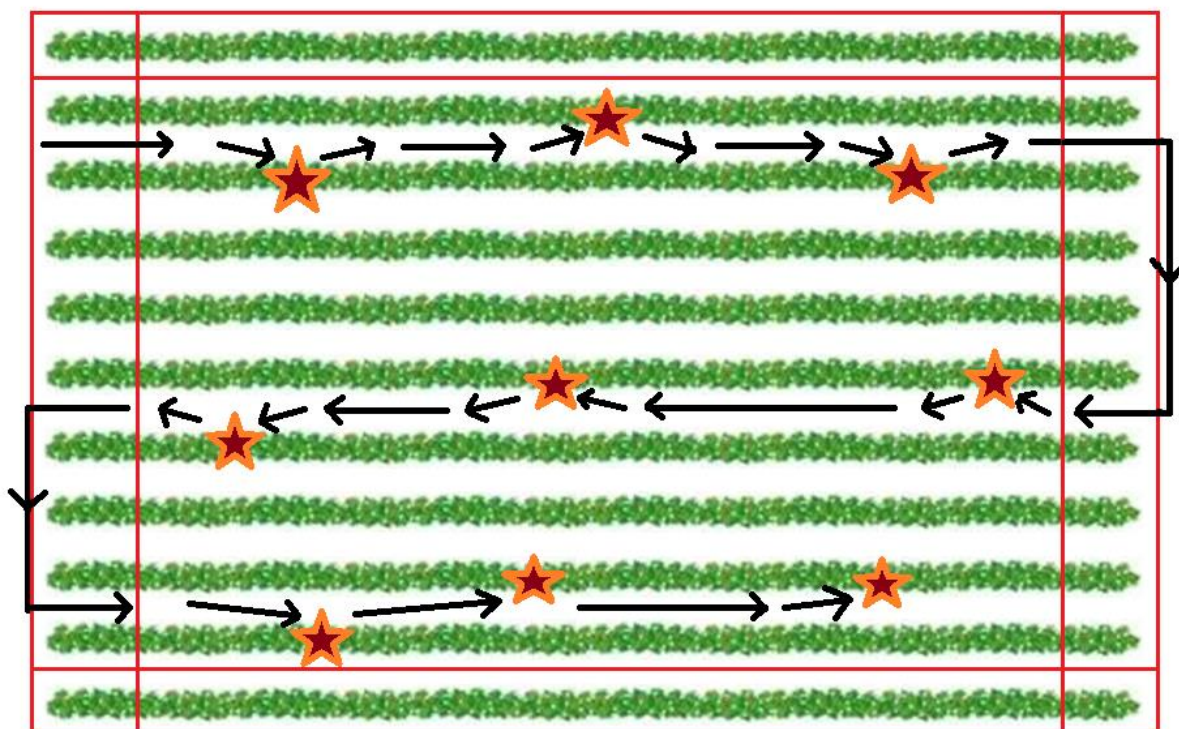
BBNZ Industry Standard Scouting Protocol

This document details the minimum protocol standards required for growers monitoring their crop to be auditable and reviewed by BBNZ for the 2022-2023 season.

The objective of this scouting is to meet the requirements for continued access to Australian marketplace and therefore to be reasonably certain of identifying the presence of any pests before harvesting for that market.

Scouting Route

The standard scouting route is shown below in the figure. The green areas represent the blueberry plants and rows. The black arrows represent the route taken by the monitoring technician. The orange stars (with maroon centres) are the sampling points. Any rows or blueberry plants on the edges (indicated by the red blocks) should not be included in a regular scouting trip as these plants may confound results due to edge effects.



The sampling points (Orange Stars with maroon centres) should be chosen randomly between the two rows (the rows either side of the monitoring technician's route). Alternatively, different rows are sampled in each round thereby covering the whole area over time. And the same plants should ideally not be inspected twice in a row between inspection dates.

Scouting Logistics

Following the route above, scouters should inspect a minimum of 10 plants per ha with a minimum of 20 plants per block (so if a grower only has a 1ha block, they still inspect 20 plants). The following table details the number of plants that should be inspected per hectare.

Size of scouted area	# of plants to be inspected
Up to 2 ha	20
Up to 3 ha	30
Up to 4 ha	40
Up to 5 ha	50

For each plant, five branches must be thoroughly inspected from base to tip; this includes all leaves, fruit and flowers present. These branches must be selected from a range of places on the plant, not just those most accessible. One of the five branches should be tapped out above a white tray (minimum 50cm Wide x 70cm Long) and all invertebrates that fall into the tray should be counted and identified if possible.

Scouting Magnification

When inspecting the plants in the field/tunnel houses, a magnification of x10-x30 using a hand lens is mandatory. This will allow monitoring technicians to see most pests present. In addition, a minimum of 2 berries per plant should be collected in a small bag from each scouting point and taken back to a stereo/binocular microscope with magnification capabilities of at least x60. Scouters should inspect the fruit under the microscope for any eggs or miniscule invertebrates. This is a presence/absence metric for the whole block. When checking collected fruit make sure to remove any insects that may have fallen off the fruit into the collection bag.

If any eggs are found on the fruit, actions should be taken to reduce their presences through biological and chemical control applications. The fruit should not be sent to Australia if eggs are found on the fruit close to harvest.

Scouting Frequency

The frequency of scouting trips will vary with variety and time of the season. The below table illustrates when scouting should occur based on plant movement.

Plant Movement	Scouting Frequency
Dormancy to bloom	6 Weekly
Bloom to fruit set	Fortnightly*
Fruit Set to Harvest	Fortnightly*
Postharvest to Dormancy	6 Weekly

*Scouting should occur at least fortnightly but preferably weekly during these times. If mite eggs are found, then scouters should increase frequency to weekly.

Scouting Sheet

The following is a BBNZ approved scouting sheet. Growers should use this provided sheet or similar (i.e. a scouting sheet with more pests/diseases/beneficials is useful and encouraged).

Crop Scouting Record Sheet																															
Grower Name:										Field Conditions:										Weather:											
Date:										Grower Number:										Comments:											
Block:										Variety:										Growth Stage:											
Plants	1					2					3					4					5					6					Percentage
Branch Sites*:	1	2	3	4	5!	6	7	8	9	10!	11	12	13	14	15!	16	17	18	19	20!	21	22	23	24	25!	26	27	28	29	30!	
Aphids																															
Leafrollers																															
Mealybug																															
Mites																															
Scale																															
Thrips																															
Rust																															
Botrytis																															
Botryosphaeria																															
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