

Syngenta PRODUCT PLUS

How to conduct a simple physical compatibility test

A compatibility test is often recommended before tank mixing to ensure physical compatibility of various pesticides.

Note: Nitrogen solutions or complete liquid fertilizers may replace all or part of the water in the spray solution if this is what is to be used in the final spray solution. Because liquid fertilizers vary, even within the same analysis, **always check compatibility with pesticide(s) before use.**

Incompatibility of tank mixtures is more common with mixtures of fertiliser and pesticides.

Test Procedure

1. In a clean glass jar with a tight, sealable lid add approximately 50% of the final volume of carrier (water or liquid fertilizer if this is to be used as the carrier) e.g. if 1L of total solution is to be made up then add 250mL to the jar at this stage. Note: Use the same source of water that will be used for the tank mix and conduct the test at the temperature the tank mix will be applied.
2. Add a compatibility agent if one is to be used (e.g. ammonium sulphate, Supa Link™). Shake or stir gently to mix.
3. Next add the appropriate amount of pesticide(s) in their relative proportions based on recommended label rates (refer to the table below). If more than one pesticide is used, add them separately with dry pesticides first, flowables next, and emulsifiable concentrates last. After each addition, shake or stir gently to thoroughly mix.
4. After the pesticides are mixed, add any adjuvants that are to be used in the final spray solution at their recommended label rates (refer to tables on right).
5. Fill the jar to the required final volume e.g. for the example above, make up to 1L total volume.
6. Put lid on and tighten. Invert the jar ten times to mix. Let the mixture stand 15-30 minutes and then look for **separation, large flakes, precipitates, heat, gels, heavy oily film on the jar, or other signs of incompatibility.**
7. If the mixture separates, but can be remixed readily, the mixture should be able to be sprayed as long as good agitation is used.
8. If the mixtures are incompatible, test the following methods of improving compatibility: (a) slurry the dry pesticide(s) in water before addition, (b) add a compatibility agent if one was not used or (c) add ½ the compatibility agent to the fertilizer or water and

the other ½ to the emulsifiable concentrate or flowable pesticide before addition to the mixture. If incompatibility is still observed, do not use the mixture..

9. After compatibility testing is complete, dispose of any pesticide waste in accordance with the **Storage and Disposal** section on the label.

Note: This procedure will only test for physical incompatibility of various products. It is still possible for some mixtures to be chemically incompatible i.e. efficacy may be impacted despite no physical evidence of mixing problems.

For products where application rate is expressed in rate per hectare use this table.

Rate mL/g per ha	VOLUME OF PRODUCT REQUIRED (mL or g) TO BE ADDED TO A 1 L MIX Planned spray volume L/ha								
	25	30	40	50	75	100	200	300	500
50	2.0	1.7	1.3	1.0	0.7	0.5	0.3	0.2	0.1
100	4.0	3.3	2.5	2.0	1.3	1.0	0.5	0.3	0.2
200	8.0	6.7	5.0	4.0	2.7	2.0	1.0	0.7	0.4
500	20.0	16.7	12.5	10.0	6.7	5.0	2.5	1.7	1.0
750	30.0	25.0	18.8	15.0	10.0	7.5	3.8	2.5	1.5
1000	40.0	33.3	25.0	20.0	13.3	10.0	5.0	3.3	2.0
2000	80.0	66.7	50.0	40.0	26.7	20.0	10.0	6.7	4.0

For products where application rate is expressed in rate per water volume (e.g. many wetters and adjuvants) use this table.

Rate % v/v	VOLUME OF PRODUCT REQUIRED (mL or g) TO BE ADDED TO A 1 L MIX Planned spray volume L/ha								
	25	30	40	50	75	100	200	300	500
0.1	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0	1.0
0.2	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0	2.0
0.25	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5	2.5
0.5	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0	5.0
1	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0
2	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0	20.0

For further information on Syngenta PRODUCT PLUS Application Technology please contact your local Syngenta Crop Protection Territory Sales Manager, the Syngenta Crop Protection Advice Line on 1800 067 108 or visit the Syngenta website www.syngenta.com.au

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