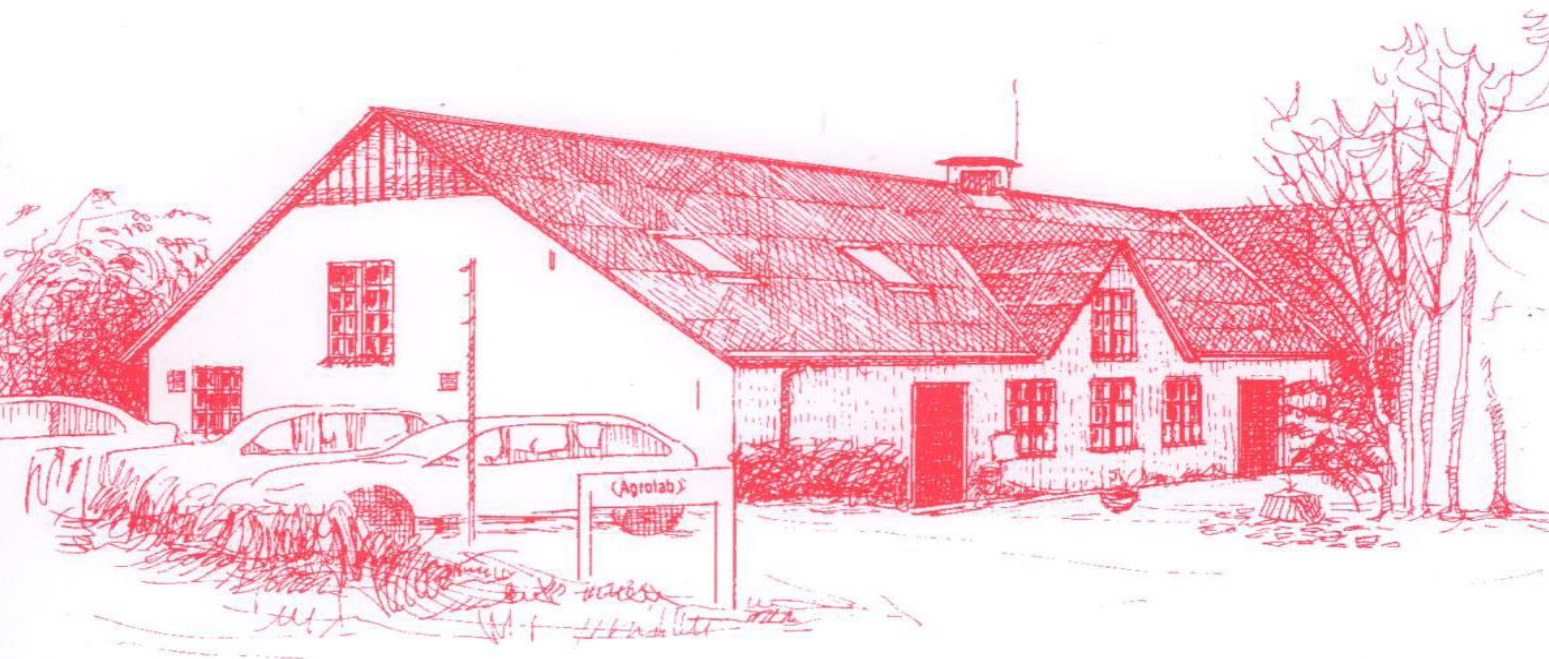


REPORT 2014

**BioNutria
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Sverige**

Study no 119 14-03

Tank Mixture Compatibility of BioMangan 180 NS with various pesticides



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Title Page

Study Title:	Tank Mixture Compatibility of BioMangan 180NS with various pesticides
Study id. numbers	Study number 119 14-03

Experimental testing period:	Feb 2014
Report completed:	Feb 2014
Place of archiving:	The original report and the original raw data will be archived at Agrolab A/S®.

Sponsor	Performing laboratory
BioNutria Glagården 67020 Glava Denmark	Agrolab A/S Røjleskovvej 18 5500 Middelfart Denmark

Report prepared by / Author:	Report approved by:
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This is an exact copy of the original report
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Date _____

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Preface

This report contains one series, consisting of one trial:

119 14-03 One trial to test the compatibility of BioMangan 180NS with various pesticides.

Please note that the results only relate to the products and formulations mentioned in the product list, and that the products have been supplied by the Sponsor under the codes mentioned. Attention is drawn to the fact that the report **must not** be reproduced, except in full, without the approval of Agrolab A/S® and the Sponsor or the Sponsor alone. The complete report must be handled as **CONFIDENTIAL** until released by the Sponsor.

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Objectives

Determination of the tank mix compatibility of BioMangan 180NS with various pesticides.

Test

Test facility

The trial was carried out at the test facility at Agrolab A/S, Røjleskovvej 18, 5500 Middelfart, the chemical products used in the trial are stored at Agrolab A/S in a temperature controlled storage room. The mixing, stirring and spraying of the products were done at a normal room temperature 15-20 °C.

Test method

The water volume was 100 ml per jar, the product was weight out on a laboratory balance or measured by disposal pipet. After putting the amount of products one by one into the water the liquid was stirred and evaluated (5 min). The liquid was shaken in 30 min. and evaluated of the physical compatibility of the products. The liquid was sprayed out through one nozzle containing a mesh 100 nozzle filter and the filter was evaluated for sedimentation and dry weight of the sedimentation is calculated.

Water

The water used in the test is regular tap water from public surlier, the water has the following specifications:

Water hardness	14 dH
pH	7.40
Nitrate	0.9 mg/l
Phosphorus	0.01 mg/l
Avg. water temperature	7.8 °C

Dose rates

Test product	Dose rate per ha	Batch number	Water volume l/ha
MCPA 750	1,0/ha	476	100
Ally ST	1 Tab/ha		100
Cycoceel 750	1,0 l/ha	G120440208	100
Lodin	0,8 l/ha		100
Bell	1,0 l/ha	0008851067	100

Conclusion

BioMangan 180NS was physically compatible with all the products at the tested dose rates. When BioMangan 180NS was added first or second to the product it had no impact on the results, the nozzle filter was not blocked or sedimentation of the filter was not observed in any of the mixes in this test.

	Final Report	Study no119 14-03 Compatibility test
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Result tables

Table 1:

<u>Test Facility</u> Agrolab A/S	<u>Sponsor</u> BioNutria
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This report details the results of a dynamic laboratory test of the Physical compatibility of tank mixtures as devised by the Agronomy and Application Sub Group (BAA) and approved by the Regulatory Affairs committee (1986).

The results have been interpreted in strict accordance with the published method, so that an increase in any of the factors assessed in tank mix combinations compared to the sum of the assessments of the same factor from the products tested alone results in a recommendation for further testing. The ultimate decision whether the difference in the mixture represents a significant change from the products tested alone rest with the sponsor.

Study number	119 14-03
Treatment	1

Spray volume	100	l/ha
Test date	19 juli 2013	

Tested by:	CJ
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Mixing order	Product	Rate /Ha	Rate /100ml	Results after shaking at (min)			Comments after spraying	
				5 min	30 min	120 min	Liquid Colour	100 mesh nozzle filter
1	BioMangan 180NS	2,0 l	2,0 ml	PC	PC	NA	clear	No problem
2	Mcpa 750	1,0 l	1,0 ml	PC	PC	NA	clear	No problem
1 → 2	BioMangan 180NS → Mcpa 750	2,0 l 1,0 l	2,0 ml 1,0 ml	PC	PC	NA	clear	No problem
2 → 1	Mcpa 750→ BioMangan 180NS	1,0 l 2,0 l	1,0 ml 2,0 ml	PC	PC	NA	clear	No problem
Test result (PC = Physically compatible, I = Incompatible, RTF = Requires further testing)								

Table 2:

<u>Test Facility</u> Agrolab A/S	<u>Sponsor</u> BioNutria
-------------------------------------	-----------------------------

This report details the results of a dynamic laboratory test of the Physical compatibility of tank mixtures as devised by the Agronomy and Application Sub Group (BAA) and approved by the Regulatory Affairs committee (1986).

The results have been interpreted in strict accordance with the published method, so that an increase in any of the factors assessed in tank mix combinations compared to the sum of the assessments of the same factor from the products tested alone results in a recommendation for further testing. The ultimate decision whether the difference in the mixture represents a significant change from the products tested alone rest with the sponsor.

Study number	119 14-03
Treatment	2

Spray volume	100	l/ha
Test date	19 Feb 2014	

Tested by:	CJ
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Mixing order	Product	Rate /Ha	Rate /100ml	Results after shaking at (min)			Comments after spraying	
				5 min	30 min	120 min	Liquid Colour	100 mesh nozzle filter
1	BioMangan 180NS	2,0 l	2,0 ml	PC	PC	NA	clear	No problem
2	Ally ST	1 Tab	0,0075g	PC	PC	NA	clear	No problem
1 → 2	BioMangan 180NS → Ally ST	2,0l 1 Tab	2,0 ml 0,0075g	PC	PC	NA	clear	No problem
2 → 1	Ally ST BioMangan 180NS	0,11kg+0,5L 1 Tab	0,11g+0,5ml 0,0075g	PC	PC	NA	clear	No problem
Test result (PC = Physically compatible, I = Incompatible, RTF = Requires further testing)								

	Final Report	Study no119 14-03 Compatibility test
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Table 3:

<u>Test Facility</u> Agrolab A/S	<u>Sponsor</u> BioNutria
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This report details the results of a dynamic laboratory test of the Physical compatibility of tank mixtures as devised by the Agronomy and Application Sub Group (BAA) and approved by the Regulatory Affairs committee (1986).

The results have been interpreted in strict accordance with the published method, so that an increase in any of the factors assessed in tank mix combinations compared to the sum of the assessments of the same factor from the products tested alone results in a recommendation for further testing. The ultimate decision whether the difference in the mixture represents a significant change from the products tested alone rest with the sponsor.

Study number	119 14-03
Treatment	3

Spray volume	100	l/ha
Test date	19 Feb 2014	

Tested by:	CJ
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Mixing order	Product	Rate /Ha	Rate /100ml	Results after shaking at (min)			Comments after spraying	
				5 min	30 min	120 min	Liquid Colour	100 mesh nozzle filter
1	BioMangan 180NS	2,0 l	2,0 ml	PC	PC	NA	clear	No problem
2	Cycocel 750	1,0 l	1,0 ml	PC	PC	NA	clear	No problem
1 → 2	BioMangan 180NS → Cycocel 750	2,0 l 1,0 l	2,0 ml 1,0 ml	PC	PC	NA	clear	No problem
2 → 1	Cycocel 750 → BioMangan 180NS	1,0 l 2,0 l	1,0 ml 2,0 ml	PC	PC	NA	clear	No problem
Test result (PC = Physically compatible, I = Incompatible, RTF = Requires further testing)								

Table 4:

<u>Test Facility</u> Agrolab A/S	<u>Sponsor</u> BioNutria
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This report details the results of a dynamic laboratory test of the Physical compatibility of tank mixtures as devised by the Agronomy and Application Sub Group (BAA) and approved by the Regulatory Affairs committee (1986).

The results have been interpreted in strict accordance with the published method, so that an increase in any of the factors assessed in tank mix combinations compared to the sum of the assessments of the same factor from the products tested alone results in a recommendation for further testing. The ultimate decision whether the difference in the mixture represents a significant change from the products tested alone rest with the sponsor.

Study number	119 14-03
Treatment	4

Spray volume	100	l/ha
Test date	19 Feb 2014	

Tested by:	CJ
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Mixing order	Product	Rate /Ha	Rate /100ml	Results after shaking at (min)			Comments after spraying	
				5 min	30 min	120 min	Liquid Colour	100 mesh nozzle filter
1	BioMangan 180NS	2,0 l	2,0 ml	PC	PC	NA	clear	No problem
2	Lodin	0,8 l	0,8 ml	PC	PC	NA	clear	No problem
1 → 2	BioMangan 180NS → Lodin	2,0 l 0,8 l	2,0 ml 0,8 ml	PC	PC	NA	clear	No problem
2 → 1	Lodin → BioMangan 180NS	0,8 l 2,0 l	0,8 ml 2,0 ml	PC	PC	NA	clear	No problem
Test result (PC = Physically compatible, I = Incompatible, RTF = Requires further testing)								


	Final Report	Study no119 14-03 Compatibility test
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Table 5:

<u>Test Facility</u> Agrolab A/S	<u>Sponsor</u> BioNutria
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This report details the results of a dynamic laboratory test of the Physical compatibility of tank mixtures as devised by the Agronomy and Application Sub Group (BAA) and approved by the Regulatory Affairs committee (1986).

The results have been interpreted in strict accordance with the published method, so that an increase in any of the factors assessed in tank mix combinations compared to the sum of the assessments of the same factor from the products tested alone results in a recommendation for further testing. The ultimate decision whether the difference in the mixture represents a significant change from the products tested alone rest with the sponsor.

Study number	119 14-03
Treatment	5

Spray volume	100	l/ha
Test date	19 Feb 2014	

Tested by:	CJ
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Mixing order	Product	Rate /Ha	Rate /100ml	Results after shaking at (min)			Comments after spraying	
				5 min	30 min	120 min	Liquid Colour	100 mesh nozzle filter
1	BioMangan 180NS	2,0 l	2,0 ml	PC	PC	NA	clear	No problem
2	Bell	1.0 l	1.0 ml	PC	PC	NA	white	No problem
1 → 2	BioMangan 180NS → Bell	2,0 l 1.0 l	2,0 ml 1.0 ml	PC	PC	NA	white	No problem
2 → 1	Bell → BioMangan 180NS	1.5 l 2,0 l	1.5 ml 2,0 ml	PC	PC	NA	white	No problem
Test result (PC = Physically compatible, I = Incompatible, RTF = Requires further testing)								