

COLORIMETRIC ASSESSMENT OF AERIAL SPRAY
DEPOSIT SAMPLES-GASPÉ 1977-Dr. R. DeBOO

by

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COLORIMETRIC ASSESSMENT OF AERIAL SPRAY DEPOSIT SAMPLES

Gaspé 1977 - Dr. R. F. DeBoo

Several sets of deposit samples were received on pairs of 50x75 mm glass slides from experimental trials, carried out under the direction of Dr. R. F. DeBoo, against spruce budworm in the Ste.-Anne-des-Monts area of Québec over the period of the 14 to 22 June, 1977, using a Cessna 185E aircraft.

Results of deposits found by colorimetric assessment are summarized here, along with the pertinent data supplied with the samples. There was a total of 13 numbered mixes and the data are reported in this order.

<u>MIX 1</u>	Permethrin O.C.	2.66ℓ (90 fl. oz.)
	Fuel Oil No. 2	337.0 ℓ (89 U.S. gal.)
	Dye*	1.7 ℓ (0.45 gal)

Applied Block 4 14 June p.m.

Block 5 14 June p.m.

	<u>ℓ/ha</u>		<u>ℓ/ha</u>		<u>ℓ/ha</u>
Line A-1	0.20	A-1	2.20	B-1	1.23
2	0.08	2	0.81		0.06
3	0.16	3	1.96		0.11
4	0.09	4	1.93		0.56
5	0.06	5	1.90		0.78
6	2.82	6	0.66		0.12
7	0.22	7	0.64		0.68
8	2.82	8	0.72		0.18
9	1.40	9	2.17		0.68
10	4.00	10	0.56		0.19
	<u>1.18 ± 1.49</u>		<u>1.36 ± 0.72</u>		<u>0.46 ± 0.39</u>

* Automate Red B solution in all mixes.

<u>MIX 2</u>	Permethrin O.C.	2.96ℓ
	F. O. 2	375.0 ℓ
	Dye	1.9 ℓ

Block 1	15 June		Block 14	15 June
		<u>ℓ/ha</u>		<u>ℓ/ha</u>
A-1		2.04	A-1	1.42
2		1.27	2	0.50
3		0.58	3	1.65
4		1.82	4	1.70
5		1.97	5	0.95
		<u>1.54</u> ± 0.61		<u>1.24</u> ± 0.51
B-1		0.22	B-1	1.66
2		1.50	2	1.71
3		0.03	3	1.20
4		0.80	4	1.04
5		0.96	5	0.04
		<u>0.70</u> ± 0.59		<u>1.15</u> ± 0.67

<u>MIX 3</u>	Permethrin O.C.	3.55ℓ
	F. O. 2	227.0 ℓ
	Dye	1.2 ℓ

Block 9	15 June		Block 11	15 June
		<u>ℓ/ha</u>		<u>ℓ/ha</u>
A-1		0.54	A-1	1.31
2		0.60	2	0.91
3		0.24	3	0.77
4		1.93	4	1.11
5		0.91	5	1.52
		<u>0.84</u> ± 0.65		<u>1.12</u> ± 0.30
B-1		2.59	B-1	1.24
2		1.08	2	0.26
3		1.15	3	0.01
4		1.65	4	0.52
5		0.90	5	1.44
		<u>1.47</u> ± 0.68		<u>0.69</u> ± 0.62

<u>MIX 4</u>	Permetrin O.C.	11.95ℓ
	F. O. 2	382.0 ℓ
	Dye	1.9 ℓ

Block 13 16 June a.m.

	<u>ℓ/ha</u>
A-1	0.61
2	1.76
3	2.17
4	1.91
5	0.27
	<u>1.34</u> ± 0.85
B-1	1.24
2	1.60
3	0.61
4	2.01
5	1.93
	<u>1.48</u> ± 0.57

<u>MIX 5</u>	Reldan 5 EM 3486	3.92ℓ
	F. O. 2	242.0 ℓ
	Dye	1.2 ℓ

Block 2

	<u>ℓ/ha</u>
A-1	1.20
2	0.29
3	0.31
4	1.37
5	0.93
6	0.20
7	0.28
8	0.51
9	0.53
10	0.19
	<u>0.58</u> ± 0.43

B samples lost.

<u>MIX 6</u>	Reldan 6EM 3486	3.60ℓ
	F. O. 2	227.0 ℓ
	Dye	1.2 ℓ

Block 3 16 June a.m.

	<u>ℓ/ha</u>		<u>ℓ/ha</u>
A-1	0.04	B-1	0.12
2	0.04	2	0.09
3	0.13	3	0.85
4	0.18	4	0.20
5	0.01	5	0.14
	<u>0.08 ± 0.07</u>		<u>0.28 ± 0.32</u>

<u>MIX 7</u>	Reldan 6EM 3486	10.40ℓ
	F. O. 2	246.0 ℓ
	Dye	1.2 ℓ

Block 6 17 June

Block 10 17 June

	<u>ℓ/ha</u>		<u>ℓ/ha</u>
A-1	0.87	A-1	2.64
2	4.00	2	2.13
3	0.90	3	2.23
4	1.05	4	1.79
5	0.22	5	1.57
	<u>1.41 ± 1.48</u>		<u>2.07 ± 0.41</u>
B-1	3.08	B-1	0.47
2	2.17	2	0.09
3	0.51	3	1.18
4	1.71	4	1.47
5	0.55	5	2.11
	<u>1.60 ± 1.10</u>		<u>1.06 ± 0.80</u>

<u>MIX 8</u>	Fenitrothion (tech) 97%	9.08
	F. O. 2	189.0
	Arotex	11.7
	Dye	1.2

Block 7 17 June

	<u>l/ha</u>
A-1	2.89
2	0.68
3	0.96
4	1.00
5	0.09
	<u>1.12</u> ± 1.05
B-1	1.01
2	2.26
3	0.31
4	0.14
5	0.03
	<u>0.75</u> ± 0.93

Block 12 17 June

	<u>l/ha</u>
A-1	0.36
2	0.24
3	0.75
4	0.46
5	0.29
	<u>0.42</u> ± 0.20
B-1	0.15
2	1.81
3	2.56
4	0.39
5	1.43
	<u>1.27</u> ± 1.00

<u>MIX 9</u>	Permethrin O.C.	2.66l
	F. O. 2	341.0 l
	Dye	1.72l

Block 4 17 June
(2nd Application)

	<u>l/ha</u>
A-1	1.87
2	1.87
3	2.06
4	1.23
5	1.38
	<u>1.68</u> ± 0.36
B-1	1.55
2	2.02
3	1.68
4	0.45
5	0.69
	<u>1.27</u> ± 0.68

Block 5 17 June
(2nd Application)

	<u>l/ha</u>
A-1	0.03
2	0.12
3	0.46
4	0.41
5	1.72
6	1.15
7	0.51
8	0.20
9	0.38
10	0.32
	<u>0.53</u> ± 0.52

Block 14 17 June
(2nd Application)

	<u>l/ha</u>
A-1	1.16
2	1.02
3	1.14
4	1.73
5	2.38
6	3.19
7	3.68
8	1.01
9	0.99
10	0.06
	<u>1.64</u> ± 1.12

MIX 10 Reldan 6EM 3486 3.92ℓ
 F. O. 2 242.0 ℓ
 Dye 1.2 ℓ

Block 2 19 June
 (2nd Application)

	<u>ℓ/ha</u>
A-1	0.11
2	1.62
3	0.49
4	0.52
5	1.93
6	0.44
7	0.72
8	0.96
9	2.13
10	0.57
	<u>0.95 ± 0.70</u>

Block 8 19 June

	<u>ℓ/ha</u>
A-1	0.61
2	1.06
3	0.47
4	0.61
5	0.31
	<u>0.61 ± 0.28</u>
B-1	0.12
2	0.08
3	0.65
4	0.40
5	0.88
	<u>0.43 ± 0.34</u>

Block 8 19 June
 (2nd Application)

	<u>ℓ/ha</u>
A-1	0.25
2	1.35
3	1.72
4	0.38
5	0.31
	<u>0.80 ± 0.68</u>
B-1	0.58
2	2.29
3	0.54
4	1.79
5	1.22
	<u>1.28 ± 0.76</u>

MIX 11 Permethrin 300 g/ℓ (Fx5031) 2.9ℓ
 F. O. 2 114.0ℓ
 Dye 0.6ℓ

No slide samples received

MIX 12 Permethrin 50 O.C. (5751) 1.15ℓ
 F. O. 2 148.0 ℓ
 Dye 0.74ℓ

Block 14 22 June
 (3rd Application)

	<u>ℓ/ha</u>
A-1	2.45
2	2.66
3	0.65
4	1.11
5	3.75
6	1.45
7	1.06
8	0.34
9	0.28
10	0.85
	<u>1.46 ± 1.14</u>

MIX 13

Reldan 6EM 3486
F. O. 2
Dye

2.34ℓ
148.0 ℓ
0.74ℓ

Block 2 22 June
(3rd Application)

	<u>ℓ/ha</u>
A-1	3.39
2	1.79
3	2.30
4	1.78
5	2.45
6	1.37
7	1.79
8	1.80
9	0.80
10	<u>0.09</u>
	1.76 ± 0.90