

Appendix A: Agrichemical Table and HSNO Classifications

Information sourced from Clarke, A (2006).

Trade Name	Active Ingredient	Target	Approved Handler	Tracking	HSNO Classifications
Fungicides					
ACROBAT MZ 690	Dimethomorph & Mancozeb	Broad spectrum	Y		6.3A, 6.4A, 6.5B, 6.9B, 9.1A
ALTO 100SL	Cyproconazole	Powdery mildew	Y		6.4A, 6.8A, 6.9B, 9.1A, 9.3C
AMISTAR WG	Azoxystrobin	Broad spectrum			6.1D, 6.4A, 9.1A
BALEAR 500SC	Chlorothalonil	Broad spectrum	Y	Y	6.1B, 6.3B, 6.4A, 6.5B, 6.7B, 6.9A, 9.1A, 9.2B, 9.3B
BARRACHLOR 720	Chlorothalonil	Broad spectrum	Y	Y	6.1B, 6.3B, 6.4A, 6.5B, 6.7B, 6.9A, 9.1A, 9.2B, 9.3B
BARRIER	Chlorothalonil	Broad spectrum only	Y	Y	6.1B, 6.3B, 6.4A, 6.5B, 6.7B, 6.9A, 9.1A, 9.2B, 9.3B
BAYLETON 5DF	Triadimefon	Powdery mildew			6.5B, 6.8A, 6.9B, 9.1C
BLIZZARD	Chlorothalonil	Broad spectrum	Y	Y	6.1B, 6.3B, 6.4A, 6.5B, 6.7B, 6.9A, 9.1A, 9.2B, 9.3B
BLUE SHIELD DF	Cupric hydroxide	Broad spectrum	Y		6.9B, 9.1A, 9.3C
BOTRAN 75WP	Dicloran	Botrytis	Y		6.1D, 6.4A, 6.9B, 9.1A, 9.3C
BOTRYZEN	Ulocladium	Botrytis only			9.1D
BRAVO	Chlorothalonil	Broad spectrum	Y		6.1E, 6.3B, 6.4A, 6.5B, 6.7B, 6.9A, 9.1A, 9.2B, 9.3B
BRAVO 720SC	Chlorothalonil	Broad spectrum	Y	Y	6.1B, 6.3B, 6.4A, 6.5B, 6.7B, 6.9A, 9.1A, 9.2B, 9.3B
CHAMP DP	Cupric hydroxide	Broad spectrum	Y		6.1D, 6.3B, 8.3A, 6.5B
CHAMP F2 FLOWABLE	Cupric hydroxide	Broad spectrum	Y		6.1D, 6.3B, 8.3A, 6.5B
CHLOROTEK	Chlorothalonil	Broad spectrum	Y	Y	6.1B, 6.3B, 6.4A, 6.5B, 6.7B, 6.9A, 9.1A, 9.2B, 9.3B
COPPER OXYCHLORID	Copper oxychloride	Broad spectrum	Y		6.1D, 6.4A, 6.5B, 6.9B, 9.1A, 9.3C
CROPCARE CAPTAN WG	Captan	Broad spectrum	Y		6.3B, 6.5B, 6.7B, 8.3A, 9.1A
CUPROFIX DISPERSS	Copper Bordeaux	Broad spectrum	Y		6.1E, 6.3A, 6.4A, 6.9, 9.1A
DEFENCE	Iprodione	Botrytis	Y		6.9B, 9.1A
DELAN WG	Dithianon	Broad spectrum	Y	Y	6.1C, 6.4A, 6.5B, 6.9A, 9.1A, 9.3B
DITHANE RAINSHIELD (NEO TEC)	Mancozeb	Broad spectrum	Y		6.3B, 6.4A, 6.5A, 6.5B, 6.9B, 9.1A
ELECT 750 SC	Chlorothalonil	Broad spectrum	Y	Y	6.1B, 6.3B, 6.4A, 6.5B, 6.7B, 6.9A, 9.1A, 9.2B, 9.3B
ELLIOTT PROTECTOR	Fatty acid	Botrytis			9.1D
EUPAREN MULTI	Tolyfluanid	Broad spectrum	Y	Y	6.1E, 6.9B, 8.2C, 8.3A, 9.1C, 9.2A
FORTIFY	Iprodione	Botrytis	Y		6.9B, 9.1A
HEADLAND SULPHUR	Sulphur	Powdery mildew			6.4A, 9.1D

Trade Name	Active Ingredient	Target	Approved Handler	Tracking	HSNO Classifications
HYDRO-PRO WDG	Cupric hydroxide	Broad spectrum	Y		6.1D, 6.3B, 6.5B, 6.9B, 8.3A, 9.1A, 9.3C
IPPON 500SC	Iprodione	Botrytis	Y		6.9B, 9.1A
JMS STYLET - OIL	Oil	Broad spectrum			6.1E, 6.3B, 9.1B
KOCIDE 2000	Cupric hydroxide	Broad spectrum	Y		6.1D, 6.3B, 6.5B, 6.9B, 8.3A, 9.1A, 9.3C
KOCIDE 2000LF	Cupric hydroxide	Broad spectrum	Y		6.1E, 6.3B, 6.5B, 6.9B, 8.3A, 9.1A
KOCIDE DF	Cupric hydroxide	Broad spectrum	Y		6.1D, 6.3B, 6.5B, 6.9B, 8.3A, 9.1A, 9.3C
KUMULUS DF	Sulphur	Powdery mildew			6.4A, 9.1D
LIME SULPHUR	Polysulphides of lime	Broad spectrum			6.3A, 8.3A, 9.1A, 9.3C
MANCOZEB 80W	Mancozeb	Broad spectrum	Y		6.3B, 6.4A, 6.5A, 6.9B, 9.1A
MANEX II	Mancozeb	Broad spectrum	Y		6.4A, 6.5A, 6.9B, 9.1A
MANKOCIDE DF	Mancozeb/Cupric hydroxide	Broad spectrum	Y		6.1D, 6.3B, 6.4A, 6.5B, 6.9B, 9.1A, 9.3B
MANZATE 200	Mancozeb	Broad spectrum	Y		6.3B, 6.4A, 6.5A, 6.9B, 9.1A
MANZATE 200DF	Mancozeb	Broad spectrum	Y		6.3B, 6.4A, 6.5B, 6.9B, 9.1A
MILKTEK	Triadimefon	Powdery mildew			3.1D, 6.1E, 6.3B, 6.4A, 6.5B, 6.8A, 6.9B, 9.1B
NORDOX OLEO 40 COPPER	Cuprous oxide	Broad spectrum	Y		6.1D, 6.4A, 6.9B, 9.1A
OLEO 40 COPPER (COPPER)	Cuprous oxide	Broad spectrum	Y		6.1D, 6.4A, 6.9B, 9.1A
ORTHOCLIDE 50SC	Captan	Broad spectrum	Y		6.3B, 6.5B, 6.7B, 8.3A, 9.1A
ORTHOCLIDE 80WDG	Captan	Broad spectrum	Y		6.3B, 6.5B, 6.7B, 8.3A, 9.1A
PENNZOZEB DF	Mancozeb	Broad spectrum	Y		6.3B, 6.4A, 6.5A, 6.5B, 6.9B, 9.1A
PHALTAN	Folpet	Broad spectrum	Y		6.1D, 6.3B, 6.4A, 6.5B, 6.7B, 9.1A
POLYRAM DF	Metiram	Broad spectrum	Y		6.1E, 6.3B, 6.4A, 6.5A, 6.5B, 6.9B, 9.1A, 9.3C
PROSTAR	Myclobutanil	Powdery mildew	Y		6.1E, 6.3A, 6.4A, 6.8A, 6.9B, 9.1B
PYRUS 400SC	Pyrimethanil	Botrytis only	Y		6.3B, 6.8B, 9.1B
QUINTEX	Quinoxifen	Powdery mildew only			6.5B, 6.9B, 9.1A
RIDOMIL GOLD MZ WG	Metalaxyl/ Mancozeb	Broad spectrum	Y		6.5B, 6.9B, 9.1A
ROVRAL FLO	Iprodione	Botrytis	Y		6.1E, 6.3B, 6.9B, 9.1A
ROVRAL GOLD	Iprodione	Botrytis	Y		6.1E, 6.4A, 6.9B, 9.1A
ROVRAL WP	Iprodione	Botrytis	Y		6.9B, 9.1A
RUBIGAN FLO	Fenarimol	Powdery mildew			6.4A, 6.8B, 6.8C, 6.9B, 9.1B
SCALA	Pyrimethanil	Botrytis only			9.1B
SENTINEL	Trichoderma	Botrytis only			
SERENADE	Bacillus Subtilis	Broad spectrum			6.4A, 6.5B, 9.4C
SHIRLAN	Fluazinam	Broad spectrum	Y	Y	6.1C, 6.3B, 6.4A, 6.5B, 6.8B, 6.9B, 9.1A
SULCLEAN DF	Sulphur	Powdery mildew only			6.4A, 9.1D

Trade Name	Active Ingredient	Target	Approved Handler	Tracking	HSNO Classifications
SULCLEAR FL	Sulphur	Powdery mildew only			6.4A, 9.1D
SULFA DF	Sulphur	Powdery mildew only			6.4A, 9.1D
SULFLO	Sulphur	Powdery mildew only			6.4A, 9.1D
SULFOLAC	Sulphur	Powdery mildew only			6.4A, 9.1D
SULMAC	Sulphur	Powdery mildew only			6.4A, 9.1D
SUMISCLEX	Procymidone	Botrytis			6.8B, 9.1B
SUPER SIX	Sulphur	Powdery mildew			6.4A, 9.1D
SWITCH	Cyprodinil/ Fludioxynil	Botrytis	Y		6.9B, 9.1A
SYSTHANE 200EW	Myclobutanil	Powdery mildew			6.1E, 6.3B, 6.4A, 6.8B, 6.9B, 9.1B, 9.2D, 9.3C
SYSTHANE 400 WP FUNGICIDE	Myclobutanil	Powdery mildew			6.3B, 6.4A, 6.5A, 6.5B, 6.9B, 9.1A
TELDOR	Fenhexamid	Botrytis only			9.1D
THIOVIT JET	Sulphur	Powdery mildew			9.1D
THIRAM 40F	Thiram	Broad spectrum	Y		6.1D, 6.3B, 6.4A, 6.5B, 6.9B, 9.1A, 9.3C
THIRAM DF	Thiram	Broad spectrum	Y	Y	6.1C, 6.3B, 6.4A, 6.5B, 6.9B, 9.1A, 9.3B
TOPAS 200EW	Penconazole	Powdery mildew			6.1E, 6.3B, 6.4A, 6.9A, 9.1B
TOPSIN M-4A	Thiophanate-methyl	Broad spectrum	Y		6.1D, 6.5B, 6.6B, 9.1A, 9.2B
Miticides					
APOLLO	Clofentezine				6.9B, 9.3C
KELTHANE 35 MITICIDE	Dicofol		Y		6.1E, 6.3A, 6.4A, 6.5B, 6.7B, 6.9A, 9.1A, 9.2B, 9.3B
OMITE 30W	Propargite		Y		6.3A, 6.7B, 6.9B, 8.3A, 9.1A, 9.3C, 9.4C
PEROPAL	Azocyclotin		Y	Y	6.1A, 6.9B, 8.3A, 9.1A, 9.3C
Herbicides					
AFALON FL	Linuron	Residual/Contact	Y		6.1E, 6.3B, 6.4A, 6.8B, 6.9A, 9.1A, 9.2A, 9.3C
AGPRO DIURON 800	Diuron	Residual	Y		6.1D, 6.4A, 6.8B, 6.9A, 9.1A, 9.2A, 9.3C
AMITROLE 400	Amitrole	Residual/ Translocated	Y		6.1E, 6.4A, 6.8B, 6.9A, 9.1B, 9.2A
AMITROLE 4L	Amitrole	Residual/ Translocated	Y		6.1E, 6.4A, 6.8B, 6.9A, 9.1B, 9.2A
BOUNDARY	Norflurazon and Diuron	Residual	Y		6.1E, 6.4A, 6.8B, 6.9A, 9.1A, 9.2A, 9.3C
BUSTER	Glufosinate ammonium	Contact	Y		3.1D, 6.1D, 6.3B, 6.4A, 6.8B, 6.9A, 9.1D, 9.2A, 9.3C
CARAGARD	Tebuthylazine	Residual	Y		6.1D, 6.3A, 6.4A, 9.1A, 9.2A, 9.3C

Assessment of the potential impacts of vineyard spraying in and around Blenheim

Trade Name	Active Ingredient	Target	Approved Handler	Tracking	HSNO Classifications
	/Terbumeton	/Translocated			
CENTURION 240EC	Clethodim	Translocated	Y		3.1C, 6.1E, 6.3A, 6.4A, 6.9B, 9.1B, 9.2A
CENTURION PLUS	Clethodim	Translocated	Y		3.1D, 6.3A, 6.9B, 8.3A, 9.1C, 9.2A
FOLAR	Glyphosate/ Terbuthylazine	Residual /Translocated	Y		6.1E, 6.4A, 9.1A, 9.2A
FORESITE	Oxadiazole	Residual	Y		6.3B, 6.4A, 6.5B, 6.7B, 6.8B, 6.9B, 9.1A, 9.2A
FUSILADE	Fluazifap-O-butyl	Translocated	Y		6.3B, 6.4A, 6.9B, 9.1A
GESATOP 500FW	Simazine	Residual	Y	Y	6.3A, 6.4A, 6.9B, 9.1A, 9.2A
GESATOP 90WG	Simazine	Residual	Y	Y	6.3A, 6.4A, 6.5A, 6.5B, 6.9B, 9.1A, 9.2A
GLYPHOSATE WEEDKILLER	Glyphosate	Translocated			6.1D, 6.4A, 9.1B
GOAL 40WP	Oxyfluorfen	Residual/ Contact	Y		6.3B, 6.4A, 6.9B, 9.1A, 9.2A
GOAL XL	Oxyfluorfen	Residual/Contact	Y		6.1E, 6.3A, 6.4A, 6.8A, 6.9B, 9.1B, 9.2A
GRAMOXONE	Paraquat	Contact	Y	Y	6.1A, 6.3A, 6.4A, 6.9A, 9.1A, 9.3B, 9.4B
HAMMER	Carfentrazone-ethyl	Translocated/ Contact	Y		3.1D, 6.1E, 6.3B, 6.4A, 6.9B, 9.1A, 9.2A
KARMEX 80DF	Diuron	Residual	Y		6.1D, 6.3B, 6.4A, 6.8B, 6.9A, 9.1A, 9.2A, 9.3C
LINURON 50 DF	Linuron	Residual/Contact	Y		6.1D, 6.3B, 6.4A, 6.8B, 6.9A, 9.1A, 9.2A, 9.3C
OXY 250SC	Oxyfluorfen	Residual/Contact	Y		6.3B, 6.4A, 6.5B, 6.9B, 9.1B, 9.2A
PEND-X	Pendimethalin	Contact	Y		3.1D, 6.1E, 6.5B, 6.9B, 9.1A, 9.2A
PREEGLONE	Paraquat/diquat	Contact	Y	Y	6.1A, 6.3A, 6.4A, 6.5B, 6.9A, 9.1A, 9.3A, 9.4C
ROUNDUP HERBICIDE	Glyphosate	Translocated			9.1B
SAMURAI	Glyphosate	Translocated			6.3A, 6.4A, 9.1B
SIMAGRANZ 900WG	Simazine	Residual	Y		6.3A, 6.4A, 6.9B, 9.1A, 9.2A
SIMANEX 500SC HERBICIDE	Simazine	Residual	Y		6.3B, 6.4A, 6.5B, 6.9B, 9.1A, 9.2A
SIMAZINE 900DF	Simazine	Residual	Y		6.3A, 6.4A, 6.9B, 9.1A, 9.2A
STOMP 330E	Pendimethalin	Residual	Y		3.1C, 6.1E, 6.4A, 6.5B, 6.9B, 9.1A, 9.2A
STOMP XTRA	Pendimethalin	Residual	Y		6.9B, 9.1A, 9.2A
SURFLAN FLO	Oryzalin	Residual	Y		6.1E, 6.4A, 6.9B, 9.1A, 9.3C, 9.4C
TAG	Terbuthylazine/ Amitrole & Glyphosate	Residual/Contact/Tr anslocated	Y		6.1D, 6.4A, 6.5B, 6.8B, 6.9A, 9.1A, 9.2A
TERB 500	Terbuthylazine	Residual/ Translocated	Y		6.1E, 9.1A, 9.2A
TOUCHDOWN IQ	Glyphosate	Translocated			6.5B, 9.1D
Insecticides					
AGREE WDG	Bacillus	Leaf Roller			6.1A, 9.1D

Trade Name	Active Ingredient	Target	Approved Handler	Tracking	HSNO Classifications
	Thuringiensis				
APPLAUD 40SC	Buprofezin	Mealy Bug			6.9B, 9.1D
ATTACK	Permethrin and Pyrimiphos Methyl	Broad Spectrum	Y		3.1C, 6.1D, 6.3B, 6.4A, 6.5A, 6.8B, 6.9A, 9.1A, 9.3A, 9.4A
AVAUNT	Indoxacarb	Leaf Roller Only	Y		6.1D, 6.5B, 6.9A, 9.1A, 9.3B, 9.4A
CALTEX D-C TRON NR (SPRAY OIL)	Mineral Oil	Broad Spectrum			6.1E, 6.3B, 9.1D
CALTEX D-C TRON PLUS (SPRAY OIL)	Mineral Oil	Broad Spectrum			6.1E, 6.3B, 9.1D
CARBARYL 50F	Carbaryl	Broad Spectrum	Y	Y	6.1C, 6.4A, 6.7B, 6.9B, 9.1A, 9.2B, 9.3B, 9.4A
CHLORPYRIFOS 48EC	Chlorpyrifos	Broad Spectrum	Y	Y	3.1D, 6.1C, 6.3B, 6.4A, 6.9A, 9.1A, 9.2B, 9.3A, 9.4A
DECIS FORTE	Deltamethrin	Broad Spectrum	Y		3.1D, 6.1D, 6.3B, 8.3A, 9.1A, 9.3C, 9.4A
DELFIN	Bacillus Thuringiensis	Leaf Roller			6.4A, 9.1D
DELTAPHER 25EC	Deltamethrin	Broad Spectrum	Y		3.1C, 6.1D, 6.3B, 6.4A, 6.9B, 9.1A, 9.3A, 9.4A
DEW 500	Diazinon	Broad Spectrum	Y		6.1D, 6.8B, 6.9A, 9.1A, 9.2D, 9.3A
DIAZINON 50W	Diazinon	Broad Spectrum	Y		6.1D, 6.8B, 6.9A, 9.1A, 9.2D, 9.3A, 9.4A
DIAZINON 800EC	Diazinon	Broad Spectrum	Y	Y	6.1C, 6.3A, 6.4A, 6.8B, 6.9A, 9.1A, 9.2D, 9.3A, 9.4A
DIAZONYL 60EC	Diazinon	Broad Spectrum	Y		3.1D, 6.1D, 6.3B, 6.8B, 6.9A, 9.1A, 9.2D, 9.3A, 9.4A
DIGRUB	Diazinon	Broad Spectrum	Y	Y	3.1C, 6.1C, 6.3A, 6.4A, 6.8B, 6.9A, 9.1A, 9.2D, 9.3A, 9.4A
DIPEL DF	Bacillus Thuringiensis	Leaf Roller			6.4A, 9.1D
DIPEL ES	Bacillus Thuringiensis	Leaf Roller			6.3B, 9.1B
ENTRUST NATURALYTE	Spinosad	Leaf Roller Only	Y		6.9B, 9.1A, 9.4A
JMS STYLET OIL	Oil	Broad Spectrum			6.1E, 6.3B, 9.1B
KARATE ZEON INSECTICIDE	Lambdacyhalothin	Broad Spectrum	Y	Y	6.1C, 6.3B, 6.4A, 6.9A, 9.1A, 9.3B, 9.4A
LANNATE L	Methomyl	Broad Spectrum	Y	Y	3.1B, 6.1C, 6.4A, 6.5B, 6.8B, 6.9A, 9.1A, 9.2B, 9.3B, 9.4A
LORSBAN 50EC INSECTICIDE	Chlorpyrifos	Broad Spectrum	Y	Y	3.1D, 6.1C, 6.3B, 6.4A, 6.9A, 9.1A, 9.2B, 9.3A, 9.4A
LORSBAN 750WG INSECTICIDE	Chlorpyrifos	Broad Spectrum	Y		6.1D, 6.8B, 6.9A, 9.1A, 9.2B, 9.3A, 9.4A
MAVRIK FLO	Taufluvialinate	Broad Spectrum	Y		6.1D, 6.9B, 9.1A, 9.3C
MIMIC	Tebufenozide	Leaf Roller Only	Y		6.9B, 9.1A
MOBIL 663	Mineral Oil	Broad Spectrum			
OVATION 50WDG	Buprofezin	Mealy Bug	Y		6.1E, 6.3B, 6.4A, 6.9B, 9.1A, 9.3C
PILAN	Buprofezin	Mealy Bug Only			6.1E, 6.3B, 6.9B, 9.1B, 9.4C
PROCLAIM	Emamectin Benzoate	Leaf Roller Only			6.1D, 6.9A, 9.1A, 9.3C, 9.4A

Trade Name	Active Ingredient	Target	Approved Handler	Tracking	HSNO Classifications
PRODIGY	Methoxyfenozide	Leaf Roller Only			9.1B, 9.4A
PYCHLOREX 48EC	Chlorpyrifos	Broad Spectrum	Y	Y	3.1C, 6.1C, 6.3B, 6.4A, 6.9A, 9.1A, 9.2B, 9.3A, 9.4A
RIPCORD	Cypermethrin	Broad Spectrum	Y		3.1C, 6.1D, 6.3B, 6.4A, 6.5B, 6.8B, 6.9A, 9.1A, 9.3C, 9.4A
SEVIN FLO	Carbaryl	Broad Spectrum	Y	Y	6.1C, 6.7B, 6.9B, 9.1A, 9.2B, 9.3B, 9.4A
SHELLSPRAY	Mineral Oil	Broad Spectrum			
SUCCESS NATURALYTE	Spinosad	Leaf Roller	Y		6.9B, 9.1A, 9.4A
TOKUTHION 500 EC	Prothiofos	Broad Spectrum	Y		3.1C, 6.1D, 6.3A, 6.4A, 6.5B, 6.9A, 9.1A, 9.3B, 9.4B
TOPELL	Chlorpyrifos	Broad Spectrum	Y	Y	3.1D, 6.1C, 6.3B, 6.4A, 6.9A, 9.1A, 9.2B, 9.3A, 9.4A



KEY	
-----	ORGANOPHOSPHATES
-----	CARBAMATES
-----	AGRICHEMICALS CONTAINING TRIAZINES
	ERMA MAY REEVALUATE IN THE NEXT 5 YEARS
	CONSIDERED FOR RE-EVALUATION BY ERMA BUT NOT SELECTED IN FIRST ROUND

Appendix B: Summary of MDC Agrichemical Rules


SUMMARY OF AGRICHEMICAL APPLICATION RULES	RURAL 3 AND 4	RURAL RESIDENTIAL	URBAN RESIDENTIAL 1 & 2	TOWNSHIP RESIDENTIAL	CENTRAL BUSINESS	NEIGHBOURHOOD BUSINESS	INDUSTRIAL 1 & 2	RURAL TOWNSHIP	CONSERVATION	DISTRICT RECREATION
Adherence to manufacturers specifications/instructions on product label	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓
No exceedance of label rates	✓								✓	
Agrichemicals must be used for their specific purpose and no disposal of agrichemical concentrate into/onto land or water	✓								✓	
No spraydrift deposition on any structure used as a water supply catchment	✓								✓	
No spraydrift deposition on any water body	✓								✓	
All reasonable care taken to avoid spray drift over legal boundary (must mix and apply in accordance with NZS)	✓								✓	
All reasonable care taken to avoid spray drift over legal boundary		✓	✓	✓	✓	✓	✓	✓		
Applicators must have or be under training for current GROWSAFE standard certificate or equivalent qualification	✓								✓	
Land based contractors must be a Registered Chemical Applicator or have equivalent qualification	✓								✓	✓
Aerial applicators/pilots applying agrichemicals must have a GROWSAFE Agrichemical Rating or equivalent	✓								✓	
Records of agrichemical use must be kept in accordance with NZS. Records must be available to MDC on request.	✓								✓	
The property owner/manager must provide current spray programme to council or neighbouring property on request	✓								✓	
Applicators must notify MDC immediately in case of accidental discharge into a water body Apply agrichemicals in manner which does not or is not likely to cause deposition into surface waters	✓	✓	✓	✓	✓	✓	✓	✓	✓	✓

Apply agrichemicals with hand held equipment only		✓	✓	✓	✓	✓	✓	✓		
Public must be notified 7 days prior to application & sprayed area appropriately labeled until agrichemical reentry period completed										✓
No discharge of any contaminant into/onto a flowing surface water or bed of any river or lake										✓
Give due regard to wind speed & direction in the method of application										✓
Give due regard to selection of nozzle size and pressure of spray units to prevent/minimise spraydrift potential										✓
Give due regard to the dilution of spray solutions to the proper concentration for application										✓
Adopt the best practicable option to minimise the actual or potential effects of spraydrift beyond target area										✓
Keep specific records of the type of each spray applied, the volume used, the date and locality.										✓
Aerial or hand application of deadly poisons permitted on private land (with permission from owner) but subject to deadly poisons rules and approvals for specified activities within the Pesticide Regulations 1983	✓									
Hand application of deadly poisons permitted but subject to deadly poisons rules and approvals for specified activities within the Pesticides regulations 1983									✓	
Resource consent or approval required for application of deadly poison on public land or activities involving deadly poisons not within deadly poison rules	✓								✓	

Suggested Export Wine Grape Spray Schedule continued ...

Growth Stage	To Control	Registered Products
<p>5. Blossom</p> <p>(See notes on Botrytis Fungicide Use p6)</p> 	<p>Botrytis and Downy Mildew (Broad Spectrum)</p> <p>Botrytis Specific Add Downy Mildew Fungicide</p> <p>Powdery Mildew</p>	<p>Amistar (see label) or Chlorothalonil Compounds (see p16) or Captan, Orthocide or Euparen Multi or Shirlan or Thiram or Pyrus or Scala or Switch or Serenade, Serenade Max or Sentinel or BotryZen or Protector or JMS Stylet Oil (also controls Powdery Mildew)</p> <p>plus Alto or Bayleton, Miltek or Prostar or Quintec or Rubigan or Systhane or Topas or Sulphur</p>
<p>6. 80% Capfall (depending on variety)</p> <p>(See notes on Botrytis Fungicide)</p> 	<p>Botrytis and Downy Mildew (Broad Spectrum)</p> <p>Botrytis Specific Add Downy Mildew Fungicide</p> <p>Powdery Mildew</p> <p>Insect Pests</p>	<p>Amistar (see label) or Chlorothalonil Compounds (see p16) or Captan, Orthocide or Euparen Multi or Shirlan or Thiram or Pyrus or Scala or Switch or Serenade, Serenade Max or Sentinel or Teldor or BotryZen or Protector or JMS Stylet Oil (also controls Powdery Mildew)</p> <p>plus Alto or Bayleton, Miltek or Prostar or Quintec or Rubigan or Systhane or Topas or Sulphur</p> <p>plus Insecticide (if necessary) Diazinon, Digrub, Diazonyl (Broad Spectrum) Chlorpyrifos Products (Broad Spectrum) Dipel DF (Leafroller) Lannate (Broad Spectrum) Avaunt (Leafroller) Mimic, Prodigy (Leafroller) Proclaim (Leafroller) Success, Entrust Naturalyte (Leafroller)</p>

Suggested Export Wine Grape Spray Schedule continued ...

Growth Stage	To Control	Registered Products
<p>7. Early bunch development and until berries commence to ripen. Spray interval according to weather and district practice.</p> <p>Pre Bunch Closure (Read 7a page 15 in conjunction with this stage)</p> 	Downy Mildew, Black Spot, Powdery Mildew (see label)	<p>*Amistar</p> <p>or *Chlorothalonil Compounds</p> <p>or *Copper Compounds</p> <p>or *Captan, *Orthocide</p> <p>or *Thiram</p> <p>or *Mancozeb Products</p> <p>*Note: Check use restrictions (p16-19)</p>
	Powdery Mildew	<p>plus Alto</p> <p>or Bayleton, Miltek</p> <p>or Prostar</p> <p>or Quintec</p> <p>or Rubigan</p> <p>or Sulphur</p> <p>or Systhane</p> <p>or Topas</p> <p>or JMS Stylet Oil</p>
	Insect Pests	<p>plus Insecticide (if necessary)</p> <p>or *Diazinon, Digrub, Diazonyl (Broad Spectrum)</p> <p>or *Chlorpyrifos Products (Broad Spectrum)</p> <p>or Dipel DF, (Leafroller)</p> <p>*Lannate (Broad Spectrum)</p> <p>*Mimic (Leafroller)</p> <p>or *Success, Entrust Naturalyte (Leafroller)</p> <p>or *Proclaim (Leafroller)</p> <p>or *Avaunt (Leafroller)</p>
		*Note: Check use restrictions (p16-19)



Bayer CropScience

Suggested Export Wine Grape Spray Schedule continued ...

Growth Stage	To Control	Registered Products
7a. Pre-Bunch closure (included as a specific spray in Stage 7. See also notes below on Pre Bunch Closure)	Botrytis and Downy Mildew	*Amistar or *Captan, Orthocide or *Chlorothalonil Compounds
	Botrytis Specific Add Downy Mildew Fungicide	or *Pryus, Scala or *Switch or *Teldor or Serenade, Serenade Max or Sentinel or *BotryZen or Protector or JMS Stylet Oil
	Insect Pests	*Note: Check use restrictions (p16-18) plus Insecticide (if necessary) Diazinon, Digrub, Diazonyl (Broad Spectrum) or Chlorpyrifos Products (Broad Spectrum) or Dipel DF (Leafroller) or Proclaim (Leafroller) or Avaunt (Leafroller) or Mimic (Leafroller) or Success, Euturist Naturalyte (Leafroller)
		*Note: Check use restrictions (p18-19)
8. Veraison (commencement of ripening)	Botrytis and Downy Mildew	Amistar (Broad Spectrum) or Captan, Orthocide (Broad Spectrum) or Chlorothalonil Compounds (Broad Spectrum)
	Botrytis Specific Add Downy Mildew Fungicide	or *Scala, Pyrus or *Serenade or *Sentinel or *JMS Stylet Oil or *Protector
		*Note: Check use restrictions (p16-18)
9. Pre-harvest	Botrytis (Check use restrictions pages 16-18 of all fungicides)	Defence, Rovral, Ippon, Fortify or Sumisclex or Scala, Pyrus or Serenade, Serenade Max or Sentinel or Protector

Notes on Pre-bunch Closure Stage:

Pre-bunch Closure is a specific part of Stage 7 (Page 14) and should be read in conjunction with it. Essentially pre-bunch closure is the stage of bunch development when the berries are going through the first rapid growth stage following fruitset and before they compress against each other. The term therefore applies more to tight clustered varieties such as Riesling, Sauvignon Blanc, Chardonnay, and Pinot Noir. It is seen as an important opportunity to penetrate Botrytis fungicides and Leafroller Caterpillar insecticides inside the young bunch and assist with an overall season long control strategy. If Botyitis disease pressure is high Captan and Chlorothalonil compounds should be replaced with more specific acting fungicides such as Teldor, Scala, Pyrus or Switch. Note that Shirtan or Euparen Multi cannot be used past Capfall. Leafroller Caterpillar, if left uncontrolled at this stage will damage berries and significantly increase the risk of Botyitis Rot at ripening. Suitable insecticides include Dipel DF, Lannate, Mimic, Proclaim, Avaunt, Success, Entrust Naturalyte. Monitoring to assess the presence of insects is important and should be carried out before an insecticide is included in the pre bunch closure spray.



Appendix D: Industry and Other Recommendations

Industry Recommendations

- Action 1: Development of pesticide rating system that ranks agrichemicals based on HSNO classifications and volatility/vapour pressure.**
Reason: There is no current form of agrichemical comparison available to growers or suppliers that relates to both human health and environment. SWNZ members are given some direction but for many growers, current selection of agrichemicals is probably based on perceived efficiency/preference, cost and recommendations from other operators or suppliers. The GROWSAFE calculator is available but it does not encompass all necessary aspects.
- Action 2: Development of CD Rom with safety data sheets (SDS) and label information for all agrichemicals listed in the export spray schedule. Further software development to enable quick information retrieval of important information relating to each chemical e.g. personal protective equipment requirements**
Reason: Improve access to relevant information and applicator knowledge/compliance.
Suggestions: Developing an updated version of software used that was used to produce NZS 8409 CD Rom.
- Action 3: Develop relationships with suppliers of agrichemical equipment**
Reason: Equipment technology recommendations for drift minimisation could be updated and distributed (perhaps with export spray schedule). Approximate costs associated with each upgrade could be included eg starting with small improvements/costs such as spraying nozzles.
- Action 4: Include suppliers of agrichemicals and application equipment in relevant industry education workshops.**
Reason: Keep suppliers educated and up to date with industry developments.
- Action 5: Encourage collaboration of grower information relating to pest and disease outbreaks and associated timing of sprays.**
Reason: Spray applications may not be applied at the most effective time resulting in the need for further applications.
- Action 6: Adoption and development of weather station technology which provides accurate assessment of the conditions at the time of spraying in the specific spraying location. This should include disease forecasting capabilities, as well as, providing email/text warnings to growers.**
Reason: Traditional techniques of assessing suitable conditions require too much time, effort and application decisions can often be based on personal judgement which is influenced by operational pressures.

Action 7: Adopt a standard electronic spray diary
Reason: Enable data analysis and aid identification of issues and improve grower education.

Action 8: Periodically review whether testing agrichemical residues in wine should be compulsory.
Reason: Avoid exposure to the public through consumption.

Other

Action 1: Increase agrichemical exposure knowledge of medical professionals and encourage suspected incidents to be reported.
Reason: Evidence suggests that they are not currently being well diagnosed or reported.

Action 2: More research into the effects of agrichemical sensitivity and its recognition.
Reason: Improve future diagnosis and ensure impacts of agrichemicals are identified.

Action 3: Funding increase in order to improve speed of agrichemical re-evaluations by ERMA.
Reason: Increase knowledge of effects of agrichemicals and impose appropriate controls.

Appendix E: Report Forms

Forms sourced from Ministry of Health (1998).

Complaint form

Complaint (Part 1 of 4)

Complaint number:	File number:
Local public health service:	Recorded by:

Complainant details											
First name:	<input style="width: 80%;" type="text"/>										
Surname:	<input style="width: 80%;" type="text"/>										
Address:	<input style="width: 80%;" type="text"/> <input style="width: 80%;" type="text"/>										
Local authority:	<input style="width: 80%;" type="text"/>										
Phone:	<input style="width: 80%;" type="text"/>										
Date reported:	<input style="width: 80%;" type="text"/>										
Time reported:	<input style="width: 80%;" type="text"/>										
Complainant type: (tick one)	<table border="1" style="width: 100%;"> <tr> <td>doctor or other health professional</td> <td style="width: 20px;"><input type="checkbox"/></td> </tr> <tr> <td>farmer</td> <td><input type="checkbox"/></td> </tr> <tr> <td>government agency</td> <td><input type="checkbox"/></td> </tr> <tr> <td>member of the public</td> <td><input type="checkbox"/></td> </tr> <tr> <td>reporter, other</td> <td><input type="checkbox"/></td> </tr> </table>	doctor or other health professional	<input type="checkbox"/>	farmer	<input type="checkbox"/>	government agency	<input type="checkbox"/>	member of the public	<input type="checkbox"/>	reporter, other	<input type="checkbox"/>
doctor or other health professional	<input type="checkbox"/>										
farmer	<input type="checkbox"/>										
government agency	<input type="checkbox"/>										
member of the public	<input type="checkbox"/>										
reporter, other	<input type="checkbox"/>										

Incident location													
Address of affected area:	<input style="width: 80%;" type="text"/> <input style="width: 80%;" type="text"/>												
Type of location: (tick one)	<table border="1" style="width: 100%;"> <tr> <td>private residence</td> <td style="width: 20px;"><input type="checkbox"/></td> </tr> <tr> <td>public area</td> <td><input type="checkbox"/></td> </tr> <tr> <td>school</td> <td><input type="checkbox"/></td> </tr> <tr> <td>workplace</td> <td><input type="checkbox"/></td> </tr> <tr> <td>child care centre</td> <td><input type="checkbox"/></td> </tr> <tr> <td>other</td> <td><input type="checkbox"/></td> </tr> </table>	private residence	<input type="checkbox"/>	public area	<input type="checkbox"/>	school	<input type="checkbox"/>	workplace	<input type="checkbox"/>	child care centre	<input type="checkbox"/>	other	<input type="checkbox"/>
private residence	<input type="checkbox"/>												
public area	<input type="checkbox"/>												
school	<input type="checkbox"/>												
workplace	<input type="checkbox"/>												
child care centre	<input type="checkbox"/>												
other	<input type="checkbox"/>												
Address from which spraydrift presumably came:	<input style="width: 80%;" type="text"/> <input style="width: 80%;" type="text"/>												
Name of property owner:	<input style="width: 80%;" type="text"/>												

Complaint details (Part 2 of 4)

How was the drift first detected?

Visible mist or cloud: <input type="checkbox"/>	Symptoms: <input type="checkbox"/>
Felt on skin or eyes: <input type="checkbox"/>	Plant damage: <input type="checkbox"/>
Smell: <input type="checkbox"/>	Spray residue on surfaces: <input type="checkbox"/>

Incident description

Date of incident:

Times of incident:

Food crops contaminated: Yes No Unsure

Other plants contaminated: Yes No Unsure

Evidence of plant damage: Yes No Unsure

➔ Date plant damage first noticed:

Applicator distance: metres *How far away was the applicator from you?*

Applicator direction: E N NE NW *What was the direction of the applicator from you?*
 S SE SW W (tick one)

Wind strength: nil light breeze moderate wind strong wind (tick one)

Wind direction: E N NE NW S SE SW W (tick one)

Temperature: °Celsius

Topography: uphill downhill level other (tick one) *Position of the spray vehicle in relation to the complainant*

Water supply: town supply roof collection well or bore spring other
 (tick all that apply)

Method of application: (tick one)

helicopter	
fixed wing aircraft	
vehicle mounted or towed	
hand held	
other	

Complaint details (Part 2 of 4) continued ...

If applied by air:
 Aircraft registration number:

Direction aircraft was flying in: E N NE NW S SE SW W (tick one)

Agrichemical (if known):

Was prior notice of the application given?
 (tick one)

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>
Not sure	<input type="checkbox"/>

 → Date notified: / /

How notified:

Complaint management (Part 3 of 4)

Management and conclusions

Action taken: (tick one)

Field investigation warranted	<input type="checkbox"/>
No further action	<input type="checkbox"/>

Event number:

Referred to another agency (list):

Related exposures/illnesses:

Event/Incident Number	Name of Case

Complaint investigation (Part 4 of 4)

Investigation

Date of investigation: / /

Investigating officers:

Is plant damage consistent with herbicide damage:

First name	Surname
<input type="text"/>	<input type="text"/>
<input type="text"/>	<input type="text"/>

Yes	<input type="checkbox"/>
No	<input type="checkbox"/>
Too early to say	<input type="checkbox"/>

Samples taken for analysis:

- Foliage Soil
Water Other

Results of analyses:

<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>

Other relevant details:

<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>

Conclusion of investigation:

<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>

Further action required:

<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>
<input type="text"/>