Program Updates 2016

Sustainability in Practice (SIP) Certification



Document Includes

- Changes made to the 2015 Information Package which apply to 2016 Information Package.
- Changes made to the 2015 Standards which apply to 2016 Standards.

Vineyard Certification Year and Inspection Schedule

The 2016 SIP Vineyard Certification cycle runs from December 1, 2015 through November 30, 2016. All documentation needs to be present in time for inspections between June 1 and July 15, 2016.

How to Use the Update Package

Under the Update column you will find the following information:

- Words in **bold** show changes made to the 2015 Information Package and Standards that apply to the current 2016 Information Package and Standards.
- NEW = New SIP rule or Standard farming practice. If the change is a new Standard it should be documented for vineyards in all Cycles (1, 2 and 3).
- Edit = Any change including content, verbiage, and punctuation.
- Moved = Existing question moved to another section or chapter.
- Deleted = A question that was removed.

Documentation Process

Enter all Standards documentation in the online SIP database at https://app.sipcertified.org. All vineyards should document questions marked with New, Edit, and Deleted. Additionally, vineyards in Cycle 2 or 3 should document database Standards marked D or D+O based on the vineyard's inspection type as shown in the SIP database. If you are in Cycle 2 or 3 with a Documentation inspection and have not received a Documentation and Onsite OR Impromptu inspection in the past 6 years, you are eligible for an Impromptu inspection and should document Standards marked D and D+O. Vineyards in Cycle 1 should review and update the Standards in their entirety.

Other Documents

The complete 2016 Information Package and Standards can be found in the online SIP database at <u>https://app.sipcertified.org</u> and online at <u>www.sipcertified.org</u> by going to Get Certified \rightarrow Vineyards \rightarrow Program Documents.

Feel free to contact me with any questions.

Sincerely,

Beth Vukmanic Lopez, Certification Manager beth@sipcertified.org | 805.466.2288

Information Package

Certification Advisory Committee (CAC)

Update	Section	Information Package
Edit	Membership	• Terms are three year staggered intervals not to exceed three two terms

Vineyard Certification

Update	Section	Information Package
Edit	Farming Company with Multiple Vineyards	A single owner managing multiple ranches can combine documentation and inspections for vineyards under one application. Unless specified in the Standards, documentation can be a representative sample of the properties. Specific vineyard documentation will need to be available present for all vineyards if requested by the inspector. but Consistent information (e.g. Human Resources) can be documented once. Inspectors will review the most representative set of documentation and spot check documentation for all the vineyards. Onsite inspections will be conducted at sample all properties.

Winery Certification

Update	Section	Information Package
NEW	All	See pages <u>31 – 42 of the Information Package</u> for complete rules.

Product Certification

Update	Section	Information Package
NEW	All	See pages <u>53 – 62 of the Information Package</u> for complete rules.

Inspection Procedures

Update	Section	Information Package
NEW	Inspection Report Check List	 Request additional documentation when provided information in insufficient.

Style Guide

Update	Section	Information Package
NEW	Edit	Posted early December.

Use the following Standards to update your documentation based in your certification cycle. Under the Type column, Req = Requirement and ME = Management Enhancement.

SIP Vineyard Certification Standards

1 Conservation and Enhancement of Biological Diversity

Question	Update	Туре	Standard
1.1	Moved	NA	1.1.9 (was 1.1.10); 1.1.10 (was 1.1.11)
1.1.7	D+O	ME	Do you have bat boxes as a means of insect pest control and/or raptor perches or owl boxes as a means of vertebrate pest control?
			□ YES: 5 □ NO: 0
			Provide photo documentation of bat box, owl box, and/or raptor perch.
1.1.8 (was 1.1.9)	Deleted Moved	ME	Do you manage adjacent habitat areas, outside the vineyard, to control the spread of noxious weed species?
			☐ YES: 5 2 ☐ NO: 0 If yes, describe management practices. Reference Pest Management, Weed Management, Management Enhancement 8.5.4. Do you avoid the spread of noxious weed species by using clean cover crop seed? ☐ YES: 3 ☐ NO: 0 If yes, include sample copy of cover crop seed bag tag indicating test results of cleaning process. Reference Pest Management, Weed Management, Management Enhancement 8.5.4.

2 Vineyard Acquisition, Establishment & Management

Question	Update	Туре	Standard
2.1.5	Edit	ME	If the soil was alkaline (Sodium Adsorption Ratio ≥ 13), did you take corrective
			action?
			☐ YES: 2 ☐ NO: 0
			If yes, describe corrective actions taken. If Not Applicable, reference soil test and
			provide written explanation.
2.1.6	Edit	ME	If the soil was saline (Electrical Conductivity > 4 dS/m), did you take corrective
			action?
			☐ YES: 2 ☐ NO: 0
			If yes, describe corrective actions taken. If Not Applicable, reference soil test and
			provide written explanation.
2.1.7	Edit	ME	If your soil was acidic (pH < 5.5), did you take corrective action?
			☐ YES: 2 ☐ NO: 0
			If yes, describe corrective actions taken. If Not Applicable, reference soil test and
			provide written explanation.
2.1.12	Edit	ME	Prior to planting or purchasing the vineyard property, did you check with the
(was			Regional Water Quality Control Board for any 303(d) listed impaired water bodies
2.3.2)			located in or around the vineyard?
			│
			If yes, identify the water body. Not applicable only if current owner did not
			establish the vineyard; provide statement.
2.2.6	NEW	ME	Prior to receipt of plant material, did you test for virus?
			☐ YES: 2 ☐ NO: 0
			Attach virus tests.
			Do you have a rootstock and/or clonal selection trial on your site (Note:
			This does not have to be a replicated trial.)?
2.3	Edit	NA	Spacing, and Orientation and Trellis Selection (combined 2.3 and 2.4)
	Moved		2.3.3 (was 2.4.1); 2.3.4 (was 2.4.2); 2.3.5 (was 2.4.4);
			2.0.0 (was 2.7.1), 2.0.4 (was 2.4.2), 2.0.0 (was 2.4.4),

Use the following Standards to update your documentation based in your certification cycle. Under the Type column, Req = Requirement and ME = Management Enhancement.

2.3.1	Edit	ME	Prior to planting or purchasing the vineyard property , did you determine the percent slope and aspect of each potential planting block and the total acres of land within ranges of slope having different levels of erosion risk?
2.3.2	NEW	ME	Did you choose spacing based on soil type, rootstock, terrain, variety, and
			clone?
			☐ YES: 2 ☐ NO: 0
			If yes, explain.
2.4 (was	Moved	NA	2.4. Canopy Management (was 2.5)
2.5)			2.4.1 (was 2.5.1); 2.4.2 (was 2.5.2)
2.4.3 (was	Deleted	ME	Do you have a trellis trial plot?
2.5.3)	Moved		<u>YES: 2 NO: 0</u>
/			If yes, describe trellis trial.
2.4.4 (was	Edit	ME	If needed, are you removing leaves and/or laterals in the fruit zone to reduce
2.5.4)			disease and pests or improve wine quality? If not, explain why leaf pulling is not
,			necessary.
			☐ YES: 2 ☐ NO: 0 ☐ NA
			Provide leaf and/or lateral removal records and before and after photo
			documentation.
2.5 (was	Edit	NA	2.5 Tissue Analysis (was 2.6)
2.6)	Moved	1.1.1	
2.0)	Wovcu		2.5.3 (was 2.6.3); 2.5.4 (was 2.6.4)
2.5.1 (was	Edit	ME	Do you take annual tissue samples?
2.6.1)	Luit		$\square YES: -32 \square NO: 0$
2.0.1)			Provide results of the most recent tissue sample.
2.5.2 (was	Edit	ME	If your vines exhibit nutritional problems, have you correlated them with your
2.6.2)	Luit		tissue tests and taken corrective action?
2.0.2)			$\square YES: -42 \square NO: 0$
			If yes, document nutritional problems, tissue tests, and your corrective action(s).
			If Not Applicable, provide written explanation.
2.5.5	NEW	ME	Have you tested the vineyard for virus?
2.0.0			\square YES: 2 \square NO: 0
			Attach virus tests.
2.5.6	NEW	ME	Did you test vines for virus prior to grafting?
2.5.0			$\square YES: 1 \square NO: 0 \square NA$
			Attach virus tests. Not Applicable if the vineyard was not grafted.
2.6 (was	Edit	NA	2.6 Fertilization (was 2.7)
2.7)	Moved		
2.7)	Woveu		2.6.2 (was 2.7.2); 2.6.3 (was 2.7.3); 2.6.4 (was 2.7.4); 2.6.6 (was 2.7.6); 2.6.7
			(was 2.7.2); 2.0.3 (was 2.7.3); 2.0.4 (was 2.7.4); 2.0.0 (was 2.7.0); 2.0.7 (was 2.7.7); 2.6.8 (was 2.7.8); 2.6.9 (was 2.7.9)
2.6.1 (was	Edit	Req	You must provide tissue samples from within the last year. Attach analysis
2.0.1 (was 2.7.1)	_	Кеч	results from within the last year. You must provide well water quality
2.7.1)	D		
0.00	D	Dee	analysis, soil analysis, and tissue samples from within the last five years.
2.6.2	D	Req	You must base <i>nutrient</i> applications on the vineyard's nutrient application plan.
			Attach pitragen er ether putrient hudget
			Attach nitrogen or other nutrient budget.
			Provide a written description of how your nutrient applications correlate with your
			nutrient budget.
	1	1	

Use the following Standards to update your documentation based in your certification cycle. Under the Type column, Req = Requirement and ME = Management Enhancement.

2.6.3	D	Req	You must annually add organic matter to the soil, such as compost, manure, municipal green waste, green manure from your cover crop, and/or mulch. Organic matter must be managed in such a way to prevent the introduction of unwanted pests, pathogens, and weed species as well as to prevent nutrient leaching. Attach organic matter application records.
			Provide written description of management practices that prevent the introduction of unwanted pests, pathogens, and weed species as well as prevent nutrient leaching.
2.6.5 (was 2.7.5)	Edit	ME	Do you utilize any properly composted local green waste and incorporate it into your vineyard operation (i.e., municipal green waste or other crop or food processing residues)? Attach records for green waste. Provide a written description of your local green waste diversion program.

3 Soil Conservation & Water Quality

Question	Update	Туре	Standard
3.1.1	NEW	Req	The soil must be sampled and tested at least every five three years for nutrient content and monitored for pH, Electrical Conductivity (EC), and toxicities. Attach results of soil samples within the last three years. If toxicities or deficiencies were detected, describe action taken.
3.1.9	D+O	ME	Do you store liquid materials separately from dry materials, and are dry materials elevated above the spill zone? YES: 2 NO: 0 If yes, provide photo documentation.
3.1.10	D+O	ME	Is mixing and loading performed on sites with low runoff hazard? YES: 2 NO: 0 If yes, explain.
3.2.2	D	Req	A winter cover crop (resident or planted) must be maintained. Provide close-up photo and large scale photo from a block level. Describe winter cover cropping practices.
3.2.4	Edit	ME	You must have vegetated perimeter buffers of no less than 25 feet from the edge of perennial and intermittent (per USGS definition) streams and wetland areas (as per EPA definition). Indicate perimeter buffers on ranch map. Not Applicable only if there are no perennial or intermittent streams and wetland areas on the property.
3.2.7	Edit	ME	Do you utilize water runoff diversions-on longer slopes to manage runoff? Image: Provide the state stat

4 Water Conservation

Question	Update	Туре	Standard
4.1	Moved	NA	4.1.6 (was 4.1.5); 4.1.7 (was 4.1.6)
4.1.4	NEW	Req	You must provide well water quality analysis from within the five years.
			Attach analysis results from within the last five years.
4.1.5	NEW	ME	Is well water quality analysis conducted more than every five years?
(was	Deleted		Every 3 years: 5
4.1.4)			Annually: 3
			□ No: 0
			If yes, attach analysis results.
			Do you periodically conduct ag suitability tests for your irrigation water from accredited labs?
4.3.2	D	Req	You must track total water the vineyard receives during the season from rainfall, frost protection, and irrigation. Attach records of total water received.

5 Energy Conservation and Efficiency

Question	Update	Туре	Standard	
5.1	Moved	NA	5.1.8 (was 5.1.9); 5.1.9 (was 5.1.10); 5.1.10 (was 5.1.11); 5.1.11 (was 5.1.12);	
			5.1.12 (was 5.1.13); 5.1.13 (was 5.1.14); 5.1.14 (was 5.1.15)	
5.1.2	Edit	ME	Based on your results from 5.1.1, if your Overall Pumping Efficiency (OPE) was under 50% did you take corrective action? YES: 41	
			Document corrective action taken.	
5.1.8	Deleted	ME	Do you periodically have your well tested for pump energy efficiency and monitored for changes in standing water level, water yield (gallons per minute) and drawdown? ☐ 2 years: 3 ☐ 3 years: 2 ☐ More than 3 years: 0 If yes, list date of most recent test result. This date must match that of the documentation provided for Requirement 5.1.1.	

6 Air Quality

Question	Update	Туре	Standard	
6.1	Moved	NA	6.1.8 (was 6.1.9)	
6.1.2	NEW	Req	You must have speed limit signs posted on main vineyard access roads to	
(was	D		reduce dust. Indicate speed limit signs on ranch map or attach photo.	
6.1.9)				
6.1.6	NEW	ME	What percentage of you tractor fleet is tier 3 or above?	
			Greater than or equal to 75% of fleet: 5	
			Between 25% and 75% of fleet: 3	
			Less than 25% of fleet: 0	
			If yes, describe.	
			Do you use alternate energy sources including bio-fuels, solar, or wind for	
			your vineyard energy needs?	
6.1.9	Deleted	ME	You must have speed limit signs posted on main vineyard access roads to	
			reduce dust.	
			<u> </u>	
			If yes, indicate speed limit signs on ranch map or attach photo.	
6.1.10	Edit	ME	If you have purchased new motors in the last five years, do they run on natural	
			propane, electricity or tier 4 diesel rather than diesel?	
			Greater than or equal to 75% of fleet: 6	
			Between 25% and 75% of fleet: 3	
			Less than 25% of fleet: 0	
			□ No 0	
			If yes, list new engines and their power source. Not Applicable only applies if you	
			have not purchased new engines in the last five years. Provide a written	
			explanation.	

7 Social Equity

Question	Update	Туре	Standard
7.1.4	D	Req	 Employee safety trainings must be given every time an employee starts work and/or enters a new working environment. Training meetings include: Personal hygiene Daily change of clean clothing Recognizing and avoiding unsafe working environments or conditions Emergency Action Plan training Safe use and handling of pesticides for handlers and applicators Pesticide safety and awareness Pesticide use notification Equipment safety & ergonomics Other types of ergonomic/musculoskeletal safety issues (lifting, carrying, etc.) Provide documentation of employee safety training meetings.
7.7.2	Edit	ME	Do you recycle your used bird netting and/or drip hose through the Crop Recycling Program or at another recycling facility? Mathematical Program or at another recycling program. If yes, explain your recycling program.

8 Pest Management

Question	Update	Туре	Standard	
8.1.1	D Edit	Req	No Active Ingredients (AI) on the Prohibited Materials List (PML) can be used. See attached Prohibited Materials List. Attach pesticide use reports with trade names and active ingredients listed. (Records are required for all certified acres)	
8.1.2	D	Req	 You must monitor and record the following: Presence and population dynamics of vineyard pests and insect/mite natural enemies at a minimum of every two weeks during the growing season Presence and severity levels of diseases or disease vectors at a minimum of every two weeks during the growing season Presence and severity levels of weeds at least once per month during the growing season Presence and identification of vertebrate pests at least once per month during the growing season Attach Records. Describe your monitoring program. 	
8.1.4	D	Req	Pesticides (insecticides, fungicides, and herbicides) with different modes of action must be alternated within the seasonal spray program in order to minimize the risk of pesticide resistance development. Attach Spray Records which include target pest, disease, or weed and pesticide mode of action. Provide an example from your vineyard.	
8.5.2	Edit	ME	Are spot spraying methods used when applying contact herbicides? YES: 6 NO: 0 NA If yes, provide written statement describing the timing of your weed control program and attach herbicide spray records. Not Applicable if herbicides were not used.	

9 Continuing Education

	Question	Update	Туре	Standard
_	9.1.1	D	Req	You must participate in at least 20 hours of Continuing Education pertaining to farming sustainability issues each year. Attach Continuing Education verification forms totaling 20 hours from the past 12
				months.

Use the following Standards to update your documentation based in your certification cycle. Under the Type column, Req = Requirement and ME = Management Enhancement.

10 Product Assurance & Business Sustainability

Question	Update	Туре	Standard	
10.1.1	D	Req	You must record fruit quality parameters on an annual basis, including Brix, pH, and TA. Provide fruit quality parameter records from the previous year.	
10.1.8	Edit	ME	If your winery is providing objective analysis (Brix, TA, pH) do you maintain and correlate compare the data. YES: 3 NO: 0 NA If yes, attach objective analysis records including variety(s), parameters, and results. Not Applicable if the winery does not provide the grower with objective analysis.	
10.2.7	Edit	ME	Do you have crop insurance? YES: 3 NO: 0 NA Provide proof of current crop insurance. Not applicable for nonbearing vineyards.	

Use the following Standards to update your documentation based in your certification cycle. Under the Type column, Req = Requirement and ME = Management Enhancement.

Due December 15, 2016

11 Year End Water and Nitrogen Use Reports

Question	Update	Туре	Standard
Cp 11	D D+O Edit	Req	Attach documentation and/or calculations with specified units. Final use numbers will be based on acres certified in the SIP Certification program on a per acre basis. You can submit multiple reports to reflect use based on multiple management areas or ranches. The following reports reflect practices from December 1 through November 30 of the certification year. Year End Reports are due to your inspector by December 15 of the certification year. (Records required for all certified acres)

CALCULATIONS	CONVERSIONS AND EXAMPLES
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General Parameters	
Total Area (ac)(y)	
Total Yield (ton)(z)	
Tons/Ac(x = z / y)	

Water Use Report	
Total Water on a per acre basis .	
Applied Irrigation Water (ac-ft/ac)(a)	To convert water units per acre to acre feet, download the <u>UCCE Irrigation Converter</u> .
Applied Frost Water (ac-ft/ac)(b)	To convert water units per acre to acre feet, download the <u>UCCE Irrigation Converter</u> .
Rainfall (ac-ft/ac)(c)	Example : Inches per acre can be converted to acre feet per acre by dividing by 12.
	10.7 in/ac 0.89 ac-ft
	12.0 in/ac-ft ac
Total Water (ac-ft/ac)(d = a + b + c)	
Efficiency	
Water Efficiency (ac-ft/ton)(d / x)	

Use the following Standards to update your documentation based in your certification cycle. Under the Type column, Req = Requirement and ME = Management Enhancement.

Nitrogen Use Report Total Nitrogen on a per acre basis.	
Fertilizer (lbs N/ac)(e)	Example for Solid Fertilizer: Ammonium sulfate [(NH ₄) ₂ SO ₄] fertilizer contains 21% N or 0.21 lbs N/lb of fertilizer. If 100 lbs of ammonium sulfate are applied per acre, the total N application is 21 lbs/acre. 100 lbs
	Example for Liquid Fertilizer: Ammonium nitrate liquid fertilizer (AN 20) has a density of 10.76 Lbs/gal, and 21% nitrogen.
	$\frac{10.76 \text{ lbs}}{\text{gal of}} \times \frac{0.21 \text{ Lbs N}}{\text{fertilizer}} \times \frac{x}{Ac} = \frac{11.3 \text{ lbs N}}{\text{ac}}$

Use the following Standards to update your documentation based in your certification cycle. Under the Type column, Req = Requirement and ME = Management Enhancement.

(f)

Presumptions (if not provided by your producer or lab): Two

methods are presented below for converting compost

applications per acre to lbs N per acre. The presumption for %N availability is based on an industry standard of 30% (0.30) availability of total N content of compost, and an average weight of 900 lbs per cubic yard of compost. Example for Tons/Acre Compost Applied: Wet (as is) compost with 1.7% N content, applied at a rate of 5 tons per acre. Step 1: Convert %N content to lbs N per ton of compost. 1.7 lbs Nx2000 lbs100 lbs compostton of compost Step 2: Convert lbs N per ton of compost to lbs available N per ton of compost. $\frac{34 \text{ lbs N}}{\text{ton of compost}} \times \frac{\begin{array}{c} 0.30 \text{ lbs} \\ available \\ \hline 1 \text{ lb total N} \end{array}}{1 \text{ lb total N}} = \frac{10.2 \text{ lbs available}}{\text{ton of compost}}$ Step 3: Multiply lbs of available N per ton by total tons applied per acre. $\frac{10.2 \text{ lbs available N}}{\text{ton of compost}} \times \frac{5 \text{ tons compost}}{\text{ac}} = \frac{51 \text{ lbs N}}{\text{ac}}$ Example for Cubic Yards (CY)/Acre Compost Applied: Wet (as is) compost with 1.7% N content, applied at a rate of 5 cubic yard per acre. Step 1: Convert %N content to lbs N per cubic yard of compost. $\frac{1.7 \text{ lbs N}}{100 \text{ lbs compost}} \times \frac{900 \text{ lbs}}{\text{cy of compost}} = \frac{15.3 \text{ lbs N}}{\text{cy of compost}}$ Step 2: Convert lbs N per cubic yard of compost to lbs available N per cubic yard of compost. $\frac{15.3 \text{ lbs N}}{\text{cy of compost}} \times \frac{0.30 \text{ lbs available}}{1 \text{ lb total N}} = \frac{4.6 \text{ lbs available}}{\frac{N}{\text{cy of compost}}}$ Step 3: Multiply lbs of available N per cubic yard by total cubic yards applied per acre. 4.6 lbs available N x 5 cy of compost ac cy of compost ac

Compost (lbs N/ac)

4.6 lbs available

23 lbs N

ac

34 lbs N

ton of compost

Use the following Standards to update your documentation based in your certification cycle. Under the Type column, Req = Requirement and ME = Management Enhancement.

Water (lbs N/ac)(g)	<u>Presumptions</u> : Two methods are presented below for converting irrigation water applications per acre to lbs N per acre. Nitrogen content of water is most commonly reported in ppm NO3 or ppm NO3-N. NO3 is converted to lbs N/acre foot of water by multiplying by 0.62. NO3-N is converted to lbs N/acre foot of water by multiplying by 2.74. A detailed description of these conversion factors can be viewed <u>online</u> .
	Example for lab report of ppm <u>NO3</u> : Report from lab shows 45ppm NO3 and a total of 0.89 acre feet (ac-ft) of irrigation water was applied.
	<u>Step1</u> : Convert ppm NO3 to lbs N/acre foot of irrigation water applied.
	45 ppm NO3 x 0.62 = 27.9 lbs N/ ac-ft
	Step 2: Multiply lbs N/ac-ft by total irrigation water applied per acre.
	$\frac{27.9 \text{ lbs N}}{\text{ac-ft}} \times \frac{0.89 \text{ ac-ft irrigation water}}{\text{ac}} = \frac{24.8 \text{ lbs N}}{\text{ac}}$
	Example for lab report of ppm <u>NO3-N</u> : Report from lab shows 45ppm NO3-N and a total of 0.89 acre feet (ac-ft) of irrigation water was applied.
	<u>Step1</u> : Convert ppm NO3-N to lbs N/acre foot of irrigation water applied.
	45 ppm NO3 x 2.74 = 123.3 lbs N/ ac-ft
	Step 2: Multiply lbs N/ ac-ft by total irrigation water applied per acre.
	$\frac{123.3 \text{ lbs N}}{\text{ac-ft}} \times \frac{0.89 \text{ ac-ft irrigation water}}{\text{ac}} = \frac{109.7 \text{ lbs N}}{\text{ac}}$
	*Efficiency of fertilization and of irrigation are not factored into the above equations.
Total Applied Nitrogen (lbs N/ac)(h = e + f + g)	
Nitrogen Efficiency (lbs N/Ton)(h / x)	

2016 SIP CERTIFICATION PROHIBITED MATERIALS LIST (PML)

Information obtained from the Department of Pesticide Regulation sources based on flagged materials registered for use on grapes. Due to the fluctuating registrations of many materials, trade names are not listed. It is the responsibility of the applicant to list trade names and active ingredients on documentation.

Active Ingredient	Cholinesterase Inhibiting	Groundwater Protection	Toxic Air Contaminant	CA DPR Restricted	Federal EPA Restricted
(S)-CYPERMETHRIN	linibiting	110000001	Containinant	rtootnotou	X
2,4-D			Х	Х	
2,4-D, DIMETHYLAMINE SALT			X	X	
4-AMINOPYRIDINE				X	Х
ABAMECTIN					X
ACEPHATE	Х				
ALUMINUM PHOSPHIDE	7.		Х	Х	Х
BETA-CYFLUTHRIN					X
BIFENTHRIN					X
CAPTAN			Х		
CARBARYL	Х		X	Х	
CHLOROPICRIN			X	X	Х
CHLORPYRIFOS	Х				X
CYFLUTHRIN					X
DIAZINON	Х				X
DIMETHOATE	X				
DIURON	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	Х		Х	
ENDOSULFAN		A	Х	X	Х
ETHEPHON	Х			~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~	
FENBUTATIN-OXIDE					Х
FENPROPATHRIN					X
HYDROGEN CYANAMIDE					X
MAGNESIUM PHOSPHIDE			Х	Х	X
MALATHION	Х		X	~~~~~	
MANCOZEB	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		Х		
META-CRESOL			X		
METHIOCARB	Х				Х
METHOMYL	X			Х	X
METHYL BROMIDE	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~		Х	X	X
NALED	Х				X
NORFLURAZON	7.	Х			
OXYDEMETON-METHYL	Х			Х	Х
PARAQUAT DICHLORIDE	~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~~			X	X
PHOSMET	Х				
POTASSIUM N-			N N		
METHYLDITHIOCARBAMATE			Х	Х	Х
PROPARGITE					Х
PROPYLENE OXIDE			Х		X
PROPYZAMIDE					Х
SIMAZINE		Х		Х	
SULFUR DIOXIDE					Х
SULFURYL FLUORIDE			Х	Х	Х
TRIFLURALIN			Х		
ZINC PHOSPHIDE			Х	Х	Х