




Development of Eco-labeling Group Do Not Use List Group Standards

Healthy Grown Standards

Healthy grown standard components include: acute mammalian toxicity, chronic mammalian toxicity, ecological toxicity and the impacts of bio-intensive IPM. Healthy Grown utilized the EIQ developed by Cornell in 1992 and included an average application rate into the equation. Growers and researchers developed the Red, Yellow and Green Pesticide use lists by referencing the previously mentioned toxicity value.

	Do Not Use
	Use with Restrictions
	Approved




Midwest Food Alliance Standards

The Mid West Food Alliance Standards developed through general industry knowledge

	Do Not Use
	Use with Caution
	Approved

Canadian National Standards

The Development of the Red Yellow and Green Pesticide lists for the Canadian National Apple Growers utilizes the EIQ scores to delineate chemicals in the following manner:

	40 or above	Do not Use
	30-40	Use with Caution
	<30	Approved

Gerber National Standards

Gerber developed their chemical standards list using the EIQ and personal experience with chemicals. (They have a special system to remove residuals therefore they may be able to utilize different chemicals)

	Do Not Use
	Use With Caution
	Approved

EIQ

The Environmental Impact Quotient was developed by researchers at Cornell in 1992 This standard was developed to evaluate pesticide effects on farm workers, consumers and local ecology

Common Fungicides used in Apple Production and their Evaluation Utilizing Four Eco-labeling Group Standards

Common Name	Trade Name	Class	Healthy Grown Toxicity*	Food Alliance Midwest *	Canada Standards	Gerber	EIQ
Fungicides:							
Ampelomyces quisqualis	AQ10	-					
Bacillus subtilis	Serenade	-					
benomyl	Benlate	benzimidazole					69.5
captan	Captan	dicarboximide					28.6
copper hydroxide	Champ formulations	copper					~33.3
copper hydroxide	Kocide 101	copper	36				33.3
copper sulfate	Copper Sulfate	copper	22				47.8
cyprodinil	Vanguard WG	pyridimine					28.1
dicloran	Botran 75 W	aromatic					35.9
dodine	Syllit 65 W	aliphatic N					34.9
fenarimol	Rubigan 1 EC	pyridimine					27.3
ferbam	Ferbam Granuflo	dithiocarbamate					~28.8
fosetyl-Al	Aliette 80 WDG	organophosphate					13.7
harpin protein	Messenger	-					
hydrogen dioxide	Oxidate	-					
kresoxim-methyl	Sovran	strobin					
maneb	Maneb formulations	dithiocarbamate	151				64.1
mancozeb	Dithane M-45	dithiocarbamate	185				62.3
mancozeb	Manzate 200 DF	dithiocarbamate	185				62.3
mancozeb	Penncozeb formulations	dithiocarbamate	185				~62.3
mefenoxam	Ridomil formulations	xylylalanine					
metiram	Polyram 80 DF	dithiocarbamate	250				55.9
myclobutanil	Nova 40 W	conazole					41.2
ocytetracycline	Mycoshield Ag Terramycin						
paraffinic oil	JMS Stylet Oil	unclassified					
potassium bicarbonate	Armicarb 100	-					
streptomycin	Agri-Mycin 17 Ag	antibiotic					18.7
sulfur	Kumulus DF	inorganic					~45.5
sulfur	Microthiol Disperss	inorganic					~45.5
sulfur	Wettable Sulfur 90 WP	inorganic					~45.5
thiabendazole	Mertect 340-F	benzimidazole					~35.5
thiram	Thiram Granuflo	dithiocarbamate					54.5
thiophanate-methyl	Topsin-M 70 WP	benzimidazole					51.5
triadimefon	Bayleton 50 DF	conazole					33.3
trifloxystrobin	Flint	strobin					33.9
triflumizole	Procure 50 WS	conazole					56.6
ziram	Ziram formulations	dithiocarbamate					87.7

* Healthy Grown standard was developed for potatoes, apple standard in progress

*Food Alliance standard revisions in progress to be completed May 2003

~ chemical ranking cites a different trade name

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Common Herbicides used in Apple Production and their Evaluation Utilizing Four Eco-labeling Group Standards

Common Name	Trade Name	Class	Healthy Grown Toxicity*	Food Alliance Midwest *	Canada Standards	Gerber	EIQ
Herbicides:							
2,4-D	Formula 40	phenoxy					
2,4-D	Weedar 64	phenoxy					
clethodim	Selec 2EC	Cyclohexene oxime					17
dichlobenil	Casoron 4 G	Nitrile					18
diuron	Karmex 80 DF	phenylurea					20.5
fluazifop-P	Fusilade DX	phenoxy					
glufosinate	Rely	organophosphate					13.2
glyphosate	Roundup formulations	organophosphate	40				32.4
isoxaben	Gallery 75 DF	amide					
isoxaben + oryzalin	Snapshot 80 OF	amide + dinitroaniline					~17.7
napropamide	Devrinol 50 DF	amide					18
norflurazon	Evital 5G	pyridazinone					~18.8
norflurazon	Solicam 80 DF	pyridazinone					18.8
oryzalin	Surflan AS	dinitroaniline					17.7
oxyfluorfen	Goal XL 2E	nitrophenyl ether					46.8
paraquat	Gramoxone Extra	quaternary ammonia	81				70
pendimethalin	Prowl 3.3 EC	dinitroaniline	102				25.8
pronamide	Kerb 50 WP	-					36
sethoxydim	Poast	cyclohexine oxime	48				27.5
simazine	Princep formulations	triazine					15.7
sulfosate	Touchdown 6 F	organophosphate					
terbacil	Sinbar 80 WP	uracil					16.8

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Common Insecticides used in Apple Production and their Evaluation Utilizing Four Eco-labeling Group Standards

Common Name	Trade Name	Class	Healthy Grown Toxicity*	Food Alliance Midwest *	Canada Standards	Gerber	EIQ
Insecticides:							
avermectin B1	Agri-Mek 0.15 EC	antibiotic					22.7
azadirachtin	Aza-Direct	botanical					~11.4
azadirachtin	Ecozin	botanical					~11.4
azadirachtin	Neemix formulations	botanical					~11.4
azinphos-methyl	Azinphos-Methyl 50	organophosphate					~43.1
azinphos-methyl	Guthion formulations	organophosphate	326				43.1
benzoic acid	Confirm 2F	-					
Benzoic acid	Intrepid 2F	-					
Bt	Javelin WG	-					
Bt var kurstaki	Dipel						
carbaryl	Carbaryl formulations	carbamate					~22.6
carbaryl	Sevin formulations	carbamate					22.6
chlorpyrifos	Lorsban formulations	organophosphate					52.8
clofentezine	Apollo SC	-					33
diazinon	Diazinon formulations	organophosphate	360				34.2
dicofol	Kelthane MF	-					29.9
dimethoate	Dimethoate formulations	organophosphate	360				~74
endosulfan	Endosulfan 50 WSB	organochloride					~40.5
endosulfan	Thiodan formulations	organophosphate	266				40.5
esfenvalerate	Asana XL	pyrethroid	209				49.6
fatty acids	M-Pede	-					
fenbutatin-oxide	Vendex 50 WP	-					22.9
fenpropathrin	Danitol 2.4 EC	pyrethroid					~46.2
formetanate	Carzol 92 SP	formamidine					21.5
hexythiazox	Savey 50 DF	-					38.4
imidacloprid	Provado	nicotinoid	~159				37.2
kaolin	Surround WP	clay					
malathion	Malathion formulations	organophosphate	~145				~23.2
methidathion	Supracide 25 WP	organophosphate					69.3
methoxyml	Lannate formulations	carbamate					32.8
methoxychlor	Methoxychlor 2 EC	organochlorine					~58.0
indoxacarb	Avaunt 30WG	oxadiazine					39.3
oxamyl	Vydate L	carbamate	343				22.9
permethrin	Ambush formulations	pyrethroid	324				56.4
permethrin	Pounce formulations	pyrethroid	324				~56.4
phosmet	Imidan 70 WP	organophosphate	105				23.9
pyridazinone	Pyramite 60 WP	-					
pyriproxyfen	Esteem 35 WP	IGR					
spinosad	Spintor 2 SC	antibiotic	~129				18.7
superior oil	Sunspray formulations	-					~27.5
thiamethoxam	Actara 25WG	nicotinoid					~29.8

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Common Nematicides and Plant Growth Regulators used in Apple Production and their Evaluation Utilizing Four Eco-labeling Group Standards

Common Name	Trade Name	Class	Healthy Grown Toxicity*	Food Alliance Midwest *	Canada Standards	Gerber	EIQ
Plant Growth Regulators:							
AVG	ReTain	Ethylene releaser					
ethephon	Ethrel	ethylene releaser					
GBA + GA	Accel	gibberellin					
gibberellic acid	Pro-Gibb	gibberellin					
gibberellic acid	Pro-Vide	gibberellin					
gibberellins	Promalin	gibberellin					
NAD	Amid-Thin-W	auxin					
NAD	Fruitone N	auxin					
NAD	K-Salt Fruit Fix formulations	auxin					
NAD	Tre-Hold	auxin					
prohexadione	Apogee	unclassified					
Nematicides:							
dichloropropene	Telone II	unclassified					
dichloropropene & chloropicrin	Telone C-17	unclassified					~36.4
fenamiphos	Nemacur formulations	organophosphate					78.9
metam-sodium	Vapam	unclassified					
oxamyl	Vydate L	carbamate	343				22.9

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