

2016 Tart Cherry MRL Charts:

Adjusted Pre-harvest Intervals to Comply with Maximum Residue Limits of U.S. and Selected Export Markets for Single and Multiple Applications of Four Insecticides Registered for Use in Managing Late Season Pests in Michigan

Purpose & Methods: These charts were developed to provide adjusted pre-harvest intervals for four pesticides registered for use on cherries against late season pests. The charts are based on cross-referencing residue degradation curves with the maximum residue limits (MRLs) of key cherry export markets. Data are from replicated trials conducted at Michigan State University on cherries that received either single or multiple applications of Danitol, Delegate, Exirel, or Imidan close to harvest in 2015. Residue analysis was conducted on rinsed fruit and followed a generally accepted standard protocol known as the QuEChERS method. The MRLs used to develop this tool come from those published by Bryant Christie, Inc. as of March 2016. Markets included in each chart are USA, European Union (EU), Australia, Canada, China, Israel, Japan, Korea, Mexico, and Taiwan.

Key to Charts:



RED means that the product *should not be used during this time* either because of EPA label restrictions or due to a high risk of exceeding MRLs for a given market.

YELLOW means that the product *should be used with caution during this time* given all the variables (e.g. tank mixes, application methods and calibration, use of adjuvants, environmental conditions post-application, and post-harvest handling) that can impact the time it takes for a residue to degrade in order to meet the MRL for a given market.

GREEN means that the product is *likely to be safe for use at this time* with low risk of residues remaining at harvest that would exceed MRLs for a given market.

Charts 1a (left below) and 1b (right below). These charts indicate that Danitol® (fenpropathrin) is not recommended for use within 1 month of harvest if exporting to the EU. Use with caution at the 3 day pre-harvest interval for all other markets listed (i.e. USA, Australia, Canada, China, Israel, Japan, Korea, Mexico, and Taiwan).

Chart 1a: Danitol® (fenpropathrin) – 1 application							
INTENDED MARKET (MRL)	Time before harvest (3 Day PHI)						
	1 mo.	28 days	21 days	14 days	10 days	7 days	3 days
USA (5)	low risk	low risk	low risk	low risk	low risk	low risk	low risk
EU (0.01)	Do not use	Do not use	Do not use	Do not use	Do not use	Do not use	Do not use
Australia (5)	low risk	low risk	low risk	low risk	low risk	low risk	low risk
Canada (5)	low risk	low risk	low risk	low risk	low risk	low risk	low risk
China (5)	low risk	low risk	low risk	low risk	low risk	low risk	low risk
Israel (5)	low risk	low risk	low risk	low risk	low risk	low risk	low risk
Japan (5)	low risk	low risk	low risk	low risk	low risk	low risk	low risk
Korea (5)	low risk	low risk	low risk	low risk	low risk	low risk	low risk
Mexico (5)	low risk	low risk	low risk	low risk	low risk	low risk	low risk
Taiwan (5)	low risk	low risk	low risk	low risk	low risk	low risk	low risk

Chart 1b: Danitol® (fenpropathrin) – 2 applications							
INTENDED MARKET (MRL)	Time before harvest (3 Day PHI)						
	1 mo.	28 days	21 days	14 days	10 days	7 days	3 days
USA (5)	low risk	low risk	low risk	low risk	low risk	low risk	low risk
EU (0.01)	Do not use	Do not use	Do not use	Do not use	Do not use	Do not use	Do not use
Australia (5)	low risk	low risk	low risk	low risk	low risk	low risk	low risk
Canada (5)	low risk	low risk	low risk	low risk	low risk	low risk	low risk
China (5)	low risk	low risk	low risk	low risk	low risk	low risk	low risk
Israel (5)	low risk	low risk	low risk	low risk	low risk	low risk	low risk
Japan (5)	low risk	low risk	low risk	low risk	low risk	low risk	low risk
Korea (5)	low risk	low risk	low risk	low risk	low risk	low risk	low risk
Mexico (5)	low risk	low risk	low risk	low risk	low risk	low risk	low risk
Taiwan (5)	low risk	low risk	low risk	low risk	low risk	low risk	low risk

Disclaimer: The authors of this tool cannot guarantee that any of these MRLs have not changed since March 2016, therefore, the user assumes all responsibility for its use subsequently. We also cannot guarantee that a material listed for use here in Michigan is registered for use outside of Michigan (material registration status is determined by the USEPA and State Governments where 'special uses' are concerned). Users outside of Michigan are cautioned to consult with their local extension service to determine what is allowable. We also make no guarantees that any of the products listed will be effective against a particular pest. Finally, given all of the variables that can affect degradation rates – in particular the use of adjuvants and tank mixes, environmental conditions post-application, and post-harvest handling – we cannot guarantee that if a product is used according to these charts, it will not leave residues that exceed tolerances (MRLs) for the selected market.

Charts 2a (left below) and 2b (right below). These charts indicate that for exporting to China or Israel, Delegate® (spinetoram) applied more than once is not recommended within 1 month of harvest or if only using once, then it should be used with caution within 14 days of harvest. Use with caution at the 7 day pre-harvest interval for all other markets listed (i.e. USA, EU, Australia, Canada, Japan, Korea, Mexico, and Taiwan).

Chart 2a: Delegate® (spinetoram) – 1 application							
INTENDED MARKET (MRL)	Time before harvest (7 Day PHI)						
	1 mo.	28 days	21 days	14 days	10 days	7 days	3 days
USA (0.3)	low risk	low risk	low risk	low risk	low risk	low risk	Do not use
EU (0.05)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
Australia (0.2)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
Canada (0.2)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
China (0)	low risk	low risk	low risk	caution	Do not use	Do not use	Do not use
Israel (0)	low risk	low risk	low risk	caution	Do not use	Do not use	Do not use
Japan (0.5)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
Korea (0.05)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
Mexico (0.2)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
Taiwan (0.2)	low risk	low risk	low risk	low risk	low risk	caution	Do not use

Chart 2b: Delegate® (spinetoram) – 3 applications							
INTENDED MARKET (MRL)	Time before harvest (7 Day PHI)						
	1 mo.	28 days	21 days	14 days	10 days	7 days	3 days
USA (0.3)	low risk	low risk	low risk	low risk	low risk	low risk	Do not use
EU (0.05)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
Australia (0.2)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
Canada (0.2)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
China (0)	Do not use	Do not use	Do not use	Do not use	Do not use	Do not use	Do not use
Israel (0)	Do not use	Do not use	Do not use	Do not use	Do not use	Do not use	Do not use
Japan (0.5)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
Korea (0.05)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
Mexico (0.2)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
Taiwan (0.2)	low risk	low risk	low risk	low risk	low risk	caution	Do not use

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Charts 3a (left below) and 3b (right below). These charts indicate that Exirel™ (cyantraniliprole) is not recommended for use within 28 days of harvest if exporting to China or Taiwan. Use with caution at the 7 day pre-harvest interval for all other markets listed (i.e. USA, EU, Australia, Canada, Israel, Japan, Korea, and Mexico).

Chart 3a: Exirel™ (cyantraniliprole) – 1 application							
INTENDED MARKET (MRL)	Time before harvest (3 Day PHI)						
	1 mo.	28 days	21 days	14 days	10 days	7 days	3 days
USA (6)	low risk	low risk	low risk	low risk	low risk	low risk	caution
EU (6)	low risk	low risk	low risk	low risk	low risk	low risk	caution
Australia (6)	low risk	low risk	low risk	low risk	low risk	low risk	caution
Canada (6)	low risk	low risk	low risk	low risk	low risk	low risk	caution
China (0)	caution	Do not use	Do not use	Do not use	Do not use	Do not use	Do not use
Israel (6)	low risk	low risk	low risk	low risk	low risk	low risk	caution
Japan (6)	low risk	low risk	low risk	low risk	low risk	low risk	caution
Korea (6)	low risk	low risk	low risk	low risk	low risk	low risk	caution
Mexico (6)	low risk	low risk	low risk	low risk	low risk	low risk	caution
Taiwan (0)	caution	Do not use	Do not use	Do not use	Do not use	Do not use	Do not use

Chart 3b: Exirel™ (cyantraniliprole) – 3 applications							
INTENDED MARKET (MRL)	Time before harvest (3 Day PHI)						
	1 mo.	28 days	21 days	14 days	10 days	7 days	3 days
USA (6)	low risk	low risk	low risk	low risk	low risk	low risk	caution
EU (6)	low risk	low risk	low risk	low risk	low risk	low risk	caution
Australia (6)	low risk	low risk	low risk	low risk	low risk	low risk	caution
Canada (6)	low risk	low risk	low risk	low risk	low risk	low risk	caution
China (0)	caution	Do not use	Do not use	Do not use	Do not use	Do not use	Do not use
Israel (6)	low risk	low risk	low risk	low risk	low risk	low risk	caution
Japan (6)	low risk	low risk	low risk	low risk	low risk	low risk	caution
Korea (6)	low risk	low risk	low risk	low risk	low risk	low risk	caution
Mexico (6)	low risk	low risk	low risk	low risk	low risk	low risk	caution
Taiwan (0)	caution	Do not use	Do not use	Do not use	Do not use	Do not use	Do not use

Charts 4a (left below) and 4b (right below). These charts indicate that Imidan® (phosmet) is not recommended for use within 1 month of harvest if exporting to China. Use with caution at the 7 day pre-harvest interval for all other markets listed (i.e. USA, EU, Australia, Canada, Israel, Japan, Korea, Mexico, and Taiwan).

Chart 4a: Imidan® (phosmet) – 1 application							
INTENDED MARKET (MRL)	Time before harvest (7 Day PHI)						
	1 mo.	28 days	21 days	14 days	10 days	7 days	3 days
USA (10)	low risk	low risk	low risk	low risk	low risk	low risk	Do not use
EU (1)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
Australia (1)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
Canada (7)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
China (0)	Do not use	Do not use	Do not use	Do not use	Do not use	Do not use	Do not use
Israel (0)	Do not use	Do not use	Do not use	Do not use	Do not use	Do not use	Do not use
Japan (0.1)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
Korea (0.05)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
Mexico (10)	low risk	low risk	low risk	low risk	low risk	low risk	Do not use
Taiwan (2)	low risk	low risk	low risk	low risk	low risk	caution	Do not use

Chart 4b: Imidan® (phosmet) – 3 applications							
INTENDED MARKET (MRL)	Time before harvest (7 Day PHI)						
	1 mo.	28 days	21 days	14 days	10 days	7 days	3 days
USA (10)	low risk	low risk	low risk	low risk	low risk	low risk	Do not use
EU (1)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
Australia (1)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
Canada (7)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
China (0)	Do not use	Do not use	Do not use	Do not use	Do not use	Do not use	Do not use
Israel (0)	Do not use	Do not use	Do not use	Do not use	Do not use	Do not use	Do not use
Japan (0.1)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
Korea (0.05)	low risk	low risk	low risk	low risk	low risk	caution	Do not use
Mexico (10)	low risk	low risk	low risk	low risk	low risk	low risk	Do not use
Taiwan (2)	low risk	low risk	low risk	low risk	low risk	caution	Do not use

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