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UNITED STATES ENVIRONMENTAL PROTECTION AGENCY
OFFICE OF PREVENTION, PESTICIDES, AND TOXIC SUBSTANCES
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MEMORANDUM

Subject: Vinclozolin: Revised Occupational Postapplication Exposure and Risk Calculations [DP Barcode D268237, Chemical Code 113201, Case 816411]

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The purpose of this memo is to provide revised estimates of occupational post-application exposure and risk for vinclozolin because of the recent changes in the Agency policy on transfer coefficients. The Agency has also recently been involved in several actions with the registrant for vinclozolin, the BASF Corporation. These have included reregistration and registration actions (e.g., Section 3 petitions for snapbeans and canola). During these recent events, BASF indicated that certain commodities will be deleted from vinclozolin labels such that only a limited number of crops remain including: kiwi, turf (sodfarms and golf courses), endive (a 24C label), lettuce, snapbeans, and canola. There is also an import tolerance for wine grapes which is not considered as there is no domestic occupational exposure component. The crops that have been deleted by BASF in this process include caneberries, ornamentals, and onions. In order to conserve resources and reflect the label requirements of vinclozolin, only the currently labelled crops have been considered in this revised risk assessment.

(1)

1. Introduction:

The purpose of this memo is to provide updated occupational post-application exposure and risk estimates for vinclozolin due to the recent revisions of the *Agricultural Transfer Coefficient* policy. The following documents were considered in the development of this revised risk assessment for post-application workers.

- *The Revised Occupational and Residential Exposure Aspects of the HED Chapter of the Reregistration Eligibility Decision Document (RED) For Vinclozolin, Case 816411, PC Code 113201, DP Barcode 260678*, Author: Jeff Dawson, Issued: February 8, 2000.

- *Response to comments from the BASF Corporation submitted in MRID 451114-01 to the Agency's February 8, 2000 occupational and residential risk assessment for vinclozolin, Case 816411, PC Code 113201, DP Barcode 265676*, Author: Jeff Dawson, Issued: June 27, 2000.

- *HED Science Policy For Exposure 3.1: Agricultural Transfer Coefficients*, Revised August 7, 2000.

The previous February 2000 occupational post-application risk assessment for vinclozolin, contained in DP Barcode 260678, addressed exposures for 3 different populations that included post-application workers, adults on golf courses, and children in a residential setting (i.e., to define a pre-harvest interval for turf). As indicated above, the purpose of this memo is to provide revised exposure and risk estimates only for post-application workers as the policy for agricultural transfer coefficients has been revised by the Agency. The Agency's policies for completing residential exposure and risk assessments have not been modified since that time so the calculated values for those populations remain current.

A summary of the previous Agency risk assessment is included below for comparative purposes in Section 2. Section 3 summarizes the revised exposure and risk estimates based on the updated crop grouping scheme outlined in the *Agricultural Transfer Coefficient* policy.

2. Summary of Previous Risk Assessment:

Vinclozolin is a dicarboximide fungicide that can be domestically used on a variety of agricultural commodities including turf (sod farms and golf courses), kiwi, lettuce, endive, snapbeans, and canola. The February 2000 Agency risk assessment (DP Barcode 260678) considered a range of occupational post-application exposures associated with contact from treated agricultural commodities and turf. Post-application exposures were also considered for ornamentals but are not addressed in this document as this use has been deleted by BASF. The exposures associated with the cultivation of these crops were calculated with a range of transfer coefficients representing low contact activities such as scouting through high contact/high exposure activities such as hand harvesting. In all, 4 distinct levels of occupational exposures (i.e., transfer coefficients) were considered along with differing combinations of available dislodgeable foliar residue (DFR) data and application rates. After the Agency's February 2000 risk assessment document (DP Barcode 260678) was released, BASF responded on the post-application risks calculated in that document (MRID 451114-01, dated 4/28/00) which was reviewed by the Agency on June 27, 2000 (DP Barcode 265676). This review compared the Agency's calculations with those proposed by BASF. The major difference between the two approaches was the manner in which the dissipation kinetics were handled by the Agency, which used a pseudo-first order

2

approach, and BASF which used a more sophisticated curve fitting approach. The following excerpt from the Agency's response to BASF comments summarizes the recommendations of the Agency based on the comments:

> "BASF has proposed REIs that range from 5 to 22 days in agriculture and from 4 to 14 days on ornamentals while the Agency calculated risks would likely result in still longer REIs. At a minimum, modifying the current labels to the REI values proposed by BASF would be a logical first step. Data should also be collected on the remaining crops if the curve-fitting approach is adopted to confirm the analysis. If confirmatory data are not collected, risk managers should carefully consider the use of the psuedo-first order analysis completed by the Agency in light of the unique attributes of the data currently available for vinclozolin."

The post-application risks previously calculated by the Agency and BASF are presented in Table 1. These results are summarized for comparative purposes with the results of the revised assessment. Please refer to DP Barcode 265676 for more detailed information concerning how these exposure/risk estimates were calculated.

Table 1: Summary of Previously Calculated Post-Application Risks

Scenario #	Activity	Agency Values		Proposed By BASF		PHI (crop)
		MOE on Day 0	Day When MOE≥100 (or 1000 for residential)	MOE on Day 0	Day When MOE≥100 (or 1000 for residential)	
In Agriculture						
1	Scouting	51	9 Days	47	5 Days	7 to 28 days depending on crop
2	Lettuce Harvest	20	21 Days	19	11 Days	28 days
3[b]	Raspberry Scouting & Harvest	13	27 Days	12	14 Days	9 days
4	Onions & Trellis Snapbean Harvest	5	39 Days	5	22 Days	10 days (proposed for beans) & 18 days (onions)
4	Kiwi Harvest	7	25 Days	Not reported	8 Days	7 days
On Ornamentals						
1	Mowing turf	1705	0 Days	534	0 Days	N A
2	Sorting/packing	20	21 Days	19	11 Days	N A
3	Irrigating	13	27 Days	12	14 Days	N A
4	Turf Harvest (with TTRs)	43	5 Days	27	4 Days	N A
4	Cutting Flowers	5 or 10	30 or 39 Days	27	4 Days	N A

All MOE values presented in this table are for the short-/intermediate-term endpoints.
Agency presented two values for cutting flowers because a standard and literature value Transfer Coefficient used for the assessment.
BASF turf mowing and golfing MOEs are based on an 8 hour day and not 4 hours as was done in the Agency assessment

3

3. Revised Occupational Post-application Risk Assessment:

Recently, the Agency has revised its policy for agricultural transfer coefficients (i.e., HED Exposure SAC Policy 3.1: *Agricultural Transfer Coefficients*). The revision to this policy entailed linking worker activities to more specific crop/agronomic groupings and making better use of the available occupational post-application exposure data. In the new policy, transfer coefficients were selected to represent the activities associated with 18 distinct crop/agronomic groupings based on different types of vegetables, trees, berries, vine/trellis crops, turf, field crops, and bunch/bundle crops (e.g., tobacco). In this new scheme, vinclozolin uses were identified in the following crop groupings:

- Field row crop, low & medium;
- Turf and sod;
- Leafy vegetables; and
- Vine & trellis crops.

In the revised risk assessment, the same dislodgeable foliar or turf transferable residue data were used as in the February 2000 Agency risk assessment. Data for strawberries were used to assess the risks associated with the low/medium sized field/row crops and the leafy vegetables. Data for peaches were used to assess the risks associated with the vine/trellis crops and the turf data were used to assess risks on golf courses and sodfarms. The delineations in the data were made based on the method of application as field/row crops and leafy vegetables are generally treated with groundboom sprayers as in the strawberry study. They can also be exposed to direct sunlight and precipitation because the crop canopy is similar to strawberries. The peach data were used to assess the risks for trellised snapbeans (i.e., expected to be a small population but there is no label restriction) and kiwi because the method of application in the peach study was airblast which would be expected for these crops, particularly kiwi. Finally, the turf transferable residue data were used to assess the risks as the data are directly applicable to the scenarios considered. The turf study has data collected using two sampling methods including the turf roller and an aqueous wash. The turf roller method was used as this is the standard method adopted by the Outdoor Residential Exposure Task Force and the aqueous sampling method is believed to overpredict transferability. When translating DFR or TTR data, it is standard practice to adjust data based on differences in application rate. The strawberry and the peach data were generated in studies where the application rate was 1 lb ai/acre which is the current label maximum rate for the crops to which it was extrapolated so no adjustment of these data were required. The turf data were generated at an application rate of 5.6 lb ai/acre and the current application rate is 1.35 lb ai/acre so an appropriate downward adjustment of the data was completed. In the previous risk assessment (Section 2 above), the Agency presented risks based on DFR and TTR values calculated by both BASF and the Agency along with the considerations associated with each approach. In order to be consistent, the Agency has again presented updated risk values based on the Agency DFR and TTR values calculated using pseudo-first order kinetics and also based on the DFR and TTR values calculated by BASF using the curve fitting approach. The same issues with regard to the techniques used to calculate DFR and TTR levels should be considered when interpreting the results of this revised assessment (see DP Barcode 265676). It should be noted that the BASF calculated values generally result in lower DFR and TTR levels and associated risks. Because of this result and the uncertainties associated with the curve fitting approach, the Agency has asked for confirmatory residue dissipation data to justify the use of this approach for use in the regulatory process. The toxicology aspects of the risk assessment also remain unchanged in that an endpoint (NOAEL = 3 mg/kg/day) from a developmental toxicity study in rats was used with a dermal absorption factor of 25.2 percent based on a rat dermal absorption study. The uncertainty factor also remains unchanged at 100 for all exposures.

4

The revised policy on transfer coefficients has been significantly expanded to more closely link job practices to one of 18 crop/agronomic groups as indicated above. It has also more clearly defined the scope of the policy as the types of tasks/job functions that should be addressed using transfer coefficients are more clearly defined and described. The policy also describes which kinds of jobs result in exposures that cannot be addressed with transfer coefficients such as hand harvesting asparagus (i.e., because there is no foliar contact) or those that are of special concern such as vacuuming while harvesting tree nuts. The revised policy also describes in more detail those exposures that are considered to be negligible as outlined in HED Exposure SAC Policy 11: *Mechanized Agricultural Practices and Post-Application Exposure Assessments* (e.g., mechanical harvesting). It should be noted that mechanical harvesting and other similar low/no exposure activities should be addressed by the guidance contained in Policy 11 which is based on the Worker Protection Standard guidance for such activities (40CFR 170). If there are exposures that are of special concern, then additional data or characterization in the risk mitigation phase of the reregistration process should be considered.

The summarized results of the revised post-application risk assessment is presented below broken down by agronomic group (see Appendix A for specific calculations for each crop group). The calculated risks and any types of exposures that are negligible or of special concern are also discussed within each group. An overall summary of the results of these revised calculations has not been developed because the updated scheme for categorizing occupational post-application risks is determined by the scope of each individual grouping.

3.1 Field/row crop (low/medium) Transfer Coefficient Group:

Vinclozolin can be used on low bush snapbeans and canola at a maximum application rate of 1 lb ai/acre. The negligible exposure activities that pertain to this group that should be addressed by HED Exposure SAC Policy 11: *Mechanized Agricultural Practices and Post-Application Exposure Assessments* include mechanical harvesting, swathing, and weeding. There were also no exposures that were thought to be of a special concern.

In this crop group, exposures related to specific activities where the transfer coefficient policy applies were determined to be within 3 categories (relative to the plants/commodities within the group) that include:

- **High Exposure (TC = 2500 cm^2/hour):** hand harvesting snapbeans (i.e., this is thought to occur in a small population as most are likely harvested mechanically).
- **Medium Exposure (TC = 1500 cm^2/hour):** scouting both crops and irrigation, thinning, and weeding of mature/high foliage snapbeans.
- **Low Exposure (TC = 100 cm^2/hour):** scouting both crops and irrigation, thinning, and weeding of immature/low foliage snapbeans.

The results of the calculations using both BASF and Agency calculated DFR values are presented in Table 2 below:

5

Table 2: Post-application Risks For Vinclozolin on Field Row Crop (low/medium) Transfer Coefficient Group				
Days After Treatment (DAT)	DFR Source	MOEs		
		Low Exposure Activities	Medium Exposure Activities	High Exposure Activities
0	Agency analysis of strawberry DFR data (MRID 43013004)	513	34	21
14			102	
21				106
0	BASF analysis of strawberry DFR data (MRID 43013004)	472	32	19
7			106	
11				113

3.2 Turf/Sod Transfer Coefficient Group:

Vinclozolin can be used on turf and sod at a maximum application rate of 1.35 lb ai/acre. The negligible exposure activity that pertains to this group that should be addressed by HED Exposure SAC Policy 11: *Mechanized Agricultural Practices and Post-Application Exposure Assessments* is irrigation. There were also no exposures that were thought to be of a special concern.

In this crop group, exposures related to specific activities where the transfer coefficient policy applies were determined to be within 2 categories (relative to the plants/commodities within the group) that include:

- **High Exposure (TC = 16500 cm²/hour):** transplanting, hand weeding, and hand/mechanical harvest.
- **Low Exposure (TC = 500 cm²/hour):** Aerating, fertilizing, mowing, and pruning.

The results of the calculations using BASF and Agency calculated TTR values are presented in Table 3 below:

Table 3: Post-application Risks For Vinclozolin on Turf/sod Transfer Coefficient Group			
Days After Treatment (DAT)	TTR Source	MOEs	
		Low Exposure Activities	High Exposure Activities
0	Agency analysis of TTR data (MRIDs 43343701 & 43528701)	1705	26
7			105
0	BASF analysis of TTR data (MRIDs 43343701 & 43528701)	1068	16
5			122

3.3 Leafy Vegetable Transfer Coefficient Group:

Vinclozolin can be used on lettuce and endive at a maximum application rate of 1 lb ai/acre. The negligible exposure activity that pertains to this group that should be addressed by HED Exposure SAC Policy 11: *Mechanized Agricultural Practices and Post-Application Exposure Assessments* is mechanical weeding. Transplanting lettuce and all of the activities associated with endive/chicory treatments in forcing trays were the exposures that were thought to be of a special concern.

In this crop group, exposures related to specific activities where the transfer coefficient policy applies were determined to be within 3 categories (relative to the plants/commodities within the group) that include:

- **High Exposure (TC = 2500 cm^2/hour):** hand harvesting lettuce.
- **Medium Exposure (TC = 1500 cm^2/hour):** scouting and irrigation of mature/high foliage lettuce.
- **Low Exposure (TC = 500 cm^2/hour):** scouting, irrigation, thinning, and weeding of immature/low foliage lettuce.

The results of the calculations using both BASF and Agency calculated DFR values are presented in Table 4 below:

Table 4: Post-application Risks For Vinclozolin on Leafy Vegetable Transfer Coefficient Group

Days After Treatment (DAT)	DFR Source	MOEs		
		Low Exposure Activities	Medium Exposure Activities	High Exposure Activities
0	Agency analysis of strawberry DFR data (MRID 43013004)	103	34	21
14			102	
21				106
0	BASF analysis of strawberry DFR data (MRID 43013004)	95	32	19
1		115		
7			106	
11				113

3.4 Vine/trellis Transfer Coefficient Group:

Vinclozolin can be applied to kiwi and potentially to trellised snapbeans at an application rate of 1 lb ai/acre. [Note: low bush snapbeans are the primary use of vinclozolin on snapbeans but there is no label restriction on certain varieties that potentially can be trellised so the exposures for associated cultural practices were addressed in this assessment even though the exposed population is expected to be very small.] The negligible exposure activities that pertain to this group that should be addressed by HED Exposure SAC Policy 11: *Mechanized Agricultural Practices and Post-Application Exposure Assessments* include mechanical

7

harvesting and weeding. However, there were also exposures that were of a special concern including some aspects of thinning, pruning, transplanting, and trellis repair.

In this crop group, exposures related to specific activities where the transfer coefficient policy applies were determined to be within 3 categories (relative to the plants/commodities within the group) that include:

- **High Exposure (TC = 5000 cm^2/hour):** hand harvesting, thinning, pruning.
- **Medium Exposure (TC = 1000 cm^2/hour):** scouting mature plants, training, tying.
- **Low Exposure (TC = 500 cm^2/hour):** irrigation, scouting immature plants, hand weeding.

The results of the using both BASF and Agency calculated values are presented in Table 5 below:

Table 5: Post-application Risks For Vinclozolin On Vine/trellis Transfer Coefficient Group

Days After Treatment (DAT)	DFR Source	MOEs			
		Low Exposure Activities	Medium Exposure Activities	High Exposure Activities	Very High Exposure Activities
0	Agency analysis of peach DFR data (MRIDs 42830001 & 43505901)	140	70	14	N/A
4			108		N/A
19				110	N/A
0	BASF analysis of peach DFR data (MRIDs 42830001 & 43505901)	147	73	15	N/A
1			112		N/A
6				111	N/A

8

APPENDIX A

POST-APPLICATION EXPOSURE & RISK CALCULATIONS FOR VINCLOZOLIN BASED ON REVISED TRANSFER COEFFICIENT POLICY

Occupational Post-Application Risk Assessment Calculator Version 1 (8/9/00)

Chemical:	Vinclozolin
Reason:	TC Policy 3.1
Date:	08/15/2000
Assessor:	J. Dawson

Applicable TC Groups:

Field row crop, Low/Medium
Turf/Sod
Vegetable, "leafy"
Vine & trellis crops

[Note: Only applicable TC groups are included above.]

DFR/TTR Data Defaults:	
Initial Percent of Rate as DFR (%):	20
Dissipation Rate per day (%):	10
Initial Percent of Rate as TTR (%):	5

Toxicology & Exposure Factor Inputs:	
Uncertainty Factor:	100
NOAEL (mg/kg/day):	3
Source of NOAEL:	Rat Developmental Tox
Adult Exposure Duration In Agriculture (hrs/day):	8
Adult Exposure Duration On Golf Courses (hrs/day):	4
Adult Body Weight (kg):	60
Dermal Abs. (%):	25.2

Note: If a dermal administration toxicity study is the source of the endpoint used for risk assessment, then the dermal absorption factor is set to 100 % to satisfy the calculations in this spreadsheet program.

Occupational Post-Application Risk Assessment Calculator Version 1 (8/9/00)

Chemical:	Vinclozolin
Reason:	TC Policy 3.1
Date:	08/15/2000
Transfer Coefficient Group:	Field/row crop, low/medium
Specific Crop(s) Considered:	Snapbeans, canola
Application Rate of Crop (lb ai/A):	1

DFR Data Summary

Data Source (enter 1 if data available, 0 if defaults)	1
Source	Strawberry DFR (MRID 43013004) - Agency Analysis
Slope of Semilog Regression:	-0.07801406
[Initial] (ug/cm2)	1.742
Study Application Rate (lb ai/A)	1
Limit of Quantification (ug/cm2)	0.001

[Note: Enter application rate of crop if no data available in study rate cell.]

Exposure Inputs Summary

Exposure Potential	Transfer Coefficients (cm2/hour)		Activities
	Used For RA	Range	
Very Low	N/A	N/A	N/A
Low	100	TBD	Scouting both and irrigation, thinning, weeding immature/low foliage snapbeans
Medium	1500	486 to 2760	Scouting both and irrigation, thinning, weeding mature/high foliage snapbeans
High	2500	486 to 2760	Hand harvesting snapbeans only
Very High	N/A	N/A	N/A

DAT	DFR LEVELS (ug/cm2)		DOSE (mg/kg/day)			MOES		
	Not Adjusted	Adjusted For Rate	Low Exposure	Medium Exposure	High Exposure	Low Exposure	Medium Exposure	High Exposure
0	1.742	1.742	0.0059	0.0878	0.1463	512.5	34.2	20.5
1	1.611	1.611	0.0054	0.0812	0.1353	554.1	36.9	22.2
2	1.490	1.490	0.0050	0.0751	0.1252	599.1	39.9	24.0
3	1.378	1.378	0.0046	0.0695	0.1158	647.7	43.2	25.9
4	1.275	1.275	0.0043	0.0643	0.1071	700.3	46.7	28.0
5	1.179	1.179	0.0040	0.0594	0.0991	757.1	50.5	30.3
6	1.091	1.091	0.0037	0.0550	0.0916	818.5	54.6	32.7
7	1.009	1.009	0.0034	0.0509	0.0848	884.9	59.0	35.4
8	0.933	0.933	0.0031	0.0470	0.0784	956.7	63.8	38.3
9	0.863	0.863	0.0029	0.0435	0.0725	1034.3	69.0	41.4
10	0.798	0.798	0.0027	0.0402	0.0671	1118.3	74.6	44.7
11	0.739	0.739	0.0025	0.0372	0.0620	1209.0	80.6	48.4
12	0.683	0.683	0.0023	0.0344	0.0574	1307.1	87.1	52.3
13	0.632	0.632	0.0021	0.0318	0.0531	1413.1	94.2	56.5
14	0.584	0.584	0.0020	0.0295	0.0491	1527.8	101.9	61.1
15	0.541	0.541	0.0018	0.0272	0.0454	1651.8	110.1	66.1
16	0.500	0.500	0.0017	0.0252	0.0420	1785.8	119.1	71.4
17	0.462	0.462	0.0016	0.0233	0.0388	1930.7	128.7	77.2
18	0.428	0.428	0.0014	0.0216	0.0359	2087.3	139.2	83.5
19	0.396	0.396	0.0013	0.0199	0.0332	2256.7	150.4	90.3
20	0.366	0.366	0.0012	0.0184	0.0307	2439.8	162.7	97.6
21	0.338	0.338	0.0011	0.0171	0.0284	2637.8	175.9	105.5
22	0.313	0.313	0.0011	0.0158	0.0263	2851.8	190.1	114.1
23	0.290	0.290	0.0010	0.0146	0.0243	3083.2	205.5	123.3
24	0.268	0.268	0.0009	0.0135	0.0225	3333.3	222.2	133.3
25	0.248	0.248	0.0008	0.0125	0.0208	3603.8	240.3	144.2
26	0.229	0.229	0.0008	0.0115	0.0192	3896.2	259.7	155.8
27	0.212	0.212	0.0007	0.0107	0.0178	4212.3	280.8	168.5
28	0.196	0.196	0.0007	0.0099	0.0165	4554.1	303.6	182.2
29	0.181	0.181	0.0006	0.0091	0.0152	4923.6	328.2	196.9
30	0.168	0.168	0.0006	0.0085	0.0141	5323.1	354.9	212.9

Occupational Post-Application Risk Assessment Calculator Version 1 (8/9/00)

Chemical:	Vinclozolin
Reason:	TC Policy 3.1
Date:	08/15/2000
Transfer Coefficient Group:	Field/row crop, low/medium
Specific Crop(s) Considered:	Snapbeans, canola
Application Rate of Crop (lb ai/A):	1

DFR Data Summary

Data Source (enter 1 if data available, 0 if defaults):	1
Source:	Strawberry DFR (MRID 43013004) - BASF Analysis
Slope of Semilog Regression:	-0.07801406
[Initial] (ug/cm2):	1.742
Study Application Rate (lb ai/A)	1
Limit of Quantification (ug/cm2):	0.001

[Note: Enter application rate of crop if no data available in study rate cell.]

Exposure Inputs Summary

Exposure Potential	Transfer Coefficients (cm2/hour)		Activities
	Used For RA	Range	
Very Low	N/A	N/A	N/A
Low	100	TBD	Scouting both and irrigation, thinning, weeding immature/low foliage snapbeans
Medium	1500	486 to 2760	Scouting both and irrigation, thinning, weeding mature/high foliage snapbeans
High	2500	486 to 2760	Hand harvesting snapbeans only
Very High	N/A	N/A	N/A

DAT	DFR LEVELS (ug/cm2)		DOSE (mg/kg/day)			MOES		
	Not Adjusted	Adjusted For Rate	Low Exposure	Medium Exposure	High Exposure	Low Exposure	Medium Exposure	High Exposure
0	1.890	1.890	0.0064	0.0953	0.1588	472.4	31.5	18.9
1	1.557	1.557	0.0052	0.0785	0.1308	573.4	38.2	22.9
2	1.292	1.292	0.0043	0.0651	0.1085	691.1	46.1	27.6
3	1.080	1.080	0.0036	0.0544	0.0907	826.7	55.1	33.1
4	0.909	0.909	0.0031	0.0458	0.0764	982.2	65.5	39.3
5	0.769	0.769	0.0026	0.0388	0.0646	1161.1	77.4	46.4
6	0.655	0.655	0.0022	0.0330	0.0550	1363.1	90.9	54.5
7	0.560	0.560	0.0019	0.0282	0.0470	1594.4	106.3	63.8
8	0.482	0.482	0.0016	0.0243	0.0405	1852.4	123.5	74.1
9	0.416	0.416	0.0014	0.0210	0.0349	2146.3	143.1	85.9
10	0.361	0.361	0.0012	0.0182	0.0303	2473.3	164.9	98.9
11	0.315	0.315	0.0011	0.0159	0.0265	2834.5	189.0	113.4
12	0.275	0.275	0.0009	0.0139	0.0231	3246.8	216.5	129.9
13	0.242	0.242	0.0008	0.0122	0.0203	3689.5	246.0	147.6
14	0.213	0.213	0.0007	0.0107	0.0179	4191.8	279.5	167.7
15	0.188	0.188	0.0006	0.0095	0.0158	4749.2	316.6	190.0
16	0.167	0.167	0.0006	0.0084	0.0140	5346.4	356.4	213.9
17	0.148	0.148	0.0005	0.0075	0.0124	6032.8	402.2	241.3
18	0.132	0.132	0.0004	0.0067	0.0111	6764.1	450.9	270.6
19	0.118	0.118	0.0004	0.0059	0.0099	7566.6	504.4	302.7
20	0.106	0.106	0.0004	0.0053	0.0089	8423.2	561.5	336.9
21	0.095	0.095	0.0003	0.0048	0.0080	9398.5	626.6	375.9
22	0.086	0.086	0.0003	0.0043	0.0072	10382.1	692.1	415.3
23	0.077	0.077	0.0003	0.0039	0.0065	11595.5	773.0	463.8
24	0.070	0.070	0.0002	0.0035	0.0059	12755.1	850.3	510.2
25	0.064	0.064	0.0002	0.0032	0.0054	13950.9	930.1	558.0

Occupational Post-Application Risk Assessment Calculator Version 1 (8/9/00)

Chemical:	Vinclozolin
Reason:	TC Policy 3.1
Date:	08/15/2000
Transfer Coefficient Group	Turf
Specific Crop(s) Considered:	Golf course and sodfarm turf
Application Rate of Crop (lb ai/A):	1.35

DFR Data Summary

Data Source (enter 1 if data available. 0 if defaults):	1
Source:	Turf TTR (MRIDs 43343701 & 43528701) - Agency Analysis
Slope of Semilog Regression:	-0.200746299
[Initial] (ug/cm2):	0.869
Study Application Rate (lb ai/A).	5.6
Limit of Quantification (ug/cm2).	0.001

[Note: Enter application rate of crop if no data available in study rate cell.]

Exposure Inputs Summary

Exposure Potential	Transfer Coefficients (cm2/hour)		Activities
	Used For RA	Range	
Very Low	N/A	N/A	N/A
Low	500	N/A	Aerating, fertilizing, mowing, pruning
Medium	N/A	N/A	N/A
High	16500	N/A	Transplanting, handweeding, hand/mechanical harvest
Very High	N/A	N/A	N/A

DAT	DFR LEVELS (ug/cm2)		DOSE (mg/kg/day)		MOEs	
	Not Adjusted	Adjusted For Rate	Low Exposure	High Exposure	Low Exposure	High Exposure
0	0.86900	0.20949	0.00176	0.11614	1704.8	25.8
1	0.71095	0.17139	0.00144	0.09502	2083.8	31.6
2	0.58164	0.14022	0.00118	0.07774	2547.1	38.6
3	0.47585	0.11471	0.00096	0.06360	3113.3	47.2
4	0.38930	0.09385	0.00079	0.05203	3805.5	57.7
5	0.31850	0.07678	0.00064	0.04257	4651.5	70.5
6	0.26057	0.06282	0.00053	0.03482	5685.6	86.1
7	0.21318	0.05139	0.00043	0.02849	6949.6	105.3
8	0.17440	0.04204	0.00035	0.02331	8494.6	128.7
9	0.14268	0.03440	0.00029	0.01907	10383.0	157.3
10	0.11673	0.02814	0.00024	0.01560	12691.3	192.3
11	0.09550	0.02302	0.00019	0.01276	15512.8	235.0
12	0.07813	0.01884	0.00016	0.01044	18961.5	287.3
13	0.06392	0.01541	0.00013	0.00854	23176.9	351.2
14	0.05229	0.01261	0.00011	0.00699	28329.5	429.2
15	0.04278	0.01031	0.00009	0.00572	34627.5	524.7
16	0.03500	0.00844	0.00007	0.00468	42325.7	641.3
17	0.02864	0.00690	0.00006	0.00383	51735.4	783.9
18	0.02343	0.00565	0.00005	0.00313	63236.9	958.1
19	0.01917	0.00462	0.00004	0.00256	77295.4	1171.1
20	0.01568	0.00378	0.00003	0.00210	94479.3	1431.5
21	0.01283	0.00309	0.00003	0.00171	115483.4	1749.7
22	0.01050	0.00253	0.00002	0.00140	141157.1	2138.7
23	0.00859	0.00207	0.00002	0.00115	172538.4	2614.2
24	0.00702	0.00169	0.000014	0.00094	210896.2	3195.4
25	0.00575	0.00139	0.000012	0.00077	257781.5	3905.8
26	0.00470	0.00113	0.000010	0.00063	315090.1	4774.1
27	0.00385	0.00093	0.000008	0.00051	385139.2	5835.4
28	0.00315	0.00076	0.000006	0.00042	470761.3	7132.7
29	0.00257	0.00062	0.000005	0.00034	575418.4	8718.5
30	0.00211	0.00051	0.000004	0.00028	703342.3	10556.7

Occupational Post-Application Risk Assessment Calculator Version 1 (8/9/00)

Chemical:	Vinclozolin
Reason:	TC Policy 3.1
Date:	08/15/2000
Transfer Coefficient Group:	Turf
Specific Crop(s) Considered:	Golf course and sodfarm turf
Application Rate of Crop (lb ai/A):	1.35

DFR Data Summary

Data Source (enter 1 if data available, 0 if defaults):	1
Source	Turf TTR (MRIDs 43343701 & 43528701) - BASF Analysis
Slope of Semilog Regression:	-0.200746299
[Initial] (ug/cm2):	0.869
Study Application Rate (lb ai/A):	5.6
Limit of Quantification (ug/cm2):	0.001

[Note: Enter application rate of crop if no data available in study rate cell.]

Exposure Inputs Summary

Exposure Potential	Transfer Coefficients (cm2/hour)		Activities
	Used For RA	Range	
Very Low	N/A	N/A	N/A
Low	500	N/A	Aerating, fertilizing, mowing, pruning
Medium	N/A	N/A	N/A
High	16500	N/A	Transplanting, handweeding, hand/mechanical harvest
Very High	N/A	N/A	N/A

DAT	DFR LEVELS (ug/cm2)		DOSE (mg/kg/day)		MOEs	
	Not Adjusted	Adjusted For Rate	Low Exposure	High Exposure	Low Exposure	High Exposure
0	1.38700	0.33437	0.00281	0.18537	1068.1	16.2
1	0.87200	0.21021	0.00177	0.11654	1698.9	25.7
2	0.56800	0.13693	0.00115	0.07591	2608.2	39.5
3	0.38100	0.09185	0.00077	0.05092	3888.4	58.9
4	0.26200	0.06316	0.00053	0.03502	5654.5	85.7
5	0.18400	0.04436	0.00037	0.02459	8051.5	122.0
6	0.13300	0.03206	0.00027	0.01778	11139.0	168.8
7	0.09700	0.02338	0.00020	0.01296	15273.0	231.4
8	0.07200	0.01736	0.00015	0.00962	20576.1	311.8
9	0.05400	0.01302	0.00011	0.00722	27434.8	415.7
10	0.04200	0.01013	0.00009	0.00561	35273.4	534.4
11	0.03200	0.00771	0.00006	0.00428	46296.3	701.5
12	0.02500	0.00603	0.00005	0.00334	59259.3	897.9
13	0.02000	0.00482	0.00004	0.00267	74074.1	1122.3
14	0.01600	0.00386	0.00003	0.00214	92592.6	1402.9
15	0.01300	0.00313	0.00003	0.00174	113960.1	1726.7
16	0.01000	0.00241	0.00002	0.00134	148148.1	2244.7
17	0.00800	0.00193	0.00002	0.00107	185185.2	2805.8
18	0.00700	0.00169	0.00001	0.00094	211640.2	3206.7
19	0.00600	0.00145	0.000012	0.00080	246913.6	3741.1
20	0.00500	0.00121	0.000010	0.00067	296296.3	4489.3
21	0.00400	0.00096	0.000008	0.00053	370370.4	5611.7
22	0.00300	0.00072	0.000006	0.00040	493827.2	7482.2
23	0.00300	0.00072	0.000006	0.00040	493827.2	7482.2
24	0.00200	0.00048	0.000004	0.00027	740740.7	11223.3
25	0.00200	0.00048	0.000004	0.00027	740740.7	11223.3

Occupational Post-Application Risk Assessment Calculator Version 1 (8/9/00)

Chemical:	Vinclozolin
Reason	TC Policy 3.1
Date:	08/15/2000
Transfer Coefficient Group	Leafy Vegetables
Specific Crop(s) Considered:	Lettuce/romaine
Application Rate of Crop (lb ai/A)	1

DFR Data Summary

Data Source (enter 1 if data available 0 if defaults)	1
Source	Strawberry DFR (MRID 43013004) - Agency Analysis
Slope of Semi log Regression	-0.07801406
[Initial] (ug/cm2)	1.742
Study Application Rate (lb ai/A)	-
Limit of Quantification (ug/cm2)	0.001

[Note: Enter application rate of crop if no data available in study rate cell.]

Exposure Inputs Summary

Exposure Potential	Transfer Coefficients (cm2/hour)		Activities
	Used For RA	Range	
Very Low	N/A	N/A	N/A
Low	500	486 to 2760	Irrigation, scouting, thinning, weeding immature plants
Medium	1500	486 to 2760	Irrigation and scouting mature plants
High	2500	486 to 2760	Hand harvesting
Very High	N/A	N/A	N/A

DAT	DFR LEVELS (ug/cm2)		DOSE (mg/kg/day)			MOES		
	Not Adjusted	Adjusted For Rate	Low Exposure	Medium Exposure	High Exposure	Low Exposure	Medium Exposure	High Exposure
0	1.742	1.742	0.0293	0.0878	0.1463	102.5	34.2	20.5
1	1.611	1.611	0.0271	0.0812	0.1353	110.8	36.9	22.2
2	1.490	1.490	0.0250	0.0751	0.1252	119.8	39.9	24.0
3	1.378	1.378	0.0232	0.0695	0.1158	129.5	43.2	25.9
4	1.275	1.275	0.0214	0.0643	0.1071	140.1	46.7	28.0
5	1.179	1.179	0.0198	0.0594	0.0991	151.4	50.5	30.3
6	1.091	1.091	0.0183	0.0550	0.0916	163.7	54.6	32.7
7	1.009	1.009	0.0170	0.0509	0.0848	177.0	59.0	35.4
8	0.933	0.933	0.0157	0.0470	0.0784	191.3	63.8	38.3
9	0.863	0.863	0.0145	0.0435	0.0725	206.9	69.0	41.4
10	0.798	0.798	0.0134	0.0402	0.0671	223.7	74.6	44.7
11	0.739	0.739	0.0124	0.0372	0.0620	241.8	80.6	48.4
12	0.683	0.683	0.0115	0.0344	0.0574	261.4	87.1	52.3
13	0.632	0.632	0.0106	0.0318	0.0531	282.6	94.2	56.5
14	0.584	0.584	0.0098	0.0295	0.0491	305.6	101.9	61.1
15	0.541	0.541	0.0091	0.0272	0.0454	330.4	110.1	66.1
16	0.500	0.500	0.0084	0.0252	0.0420	357.2	119.1	71.4
17	0.462	0.462	0.0078	0.0233	0.0388	386.1	128.7	77.2
18	0.428	0.428	0.0072	0.0216	0.0359	417.5	139.2	83.5
19	0.396	0.396	0.0066	0.0199	0.0332	451.3	150.4	90.3
20	0.366	0.366	0.0061	0.0184	0.0307	488.0	162.7	97.6
21	0.338	0.338	0.0057	0.0171	0.0284	527.6	175.9	105.5
22	0.313	0.313	0.0053	0.0158	0.0263	570.4	190.1	114.1
23	0.290	0.290	0.0049	0.0146	0.0243	616.6	205.5	123.3
24	0.268	0.268	0.0045	0.0135	0.0225	666.7	222.2	133.3
25	0.248	0.248	0.0042	0.0125	0.0208	720.8	240.3	144.2
26	0.229	0.229	0.0038	0.0115	0.0192	779.2	259.7	155.8
27	0.212	0.212	0.0036	0.0107	0.0178	842.5	280.8	168.5
28	0.196	0.196	0.0033	0.0099	0.0165	910.8	303.6	182.2
29	0.181	0.181	0.0030	0.0091	0.0152	984.7	328.2	196.9
30	0.168	0.168	0.0028	0.0085	0.0141	1064.6	354.9	212.9

Occupational Post-Application Risk Assessment Calculator Version 1 (8/9/00)

Chemical	Vinclozolin
Reason	TC Policy 3.1
Date	08/15/2000
Transfer Coefficient Group	Leafy Vegetables
Specific Crop(s) Considered	Lettuce/romaine
Application Rate of Crop (lb ai/A)	1

DFR Data Summary

Data Source (enter 1 if data available 0 if defaults)	1
Source	Strawberry DFR (MRID 43013004) - BASF Analysis
Slope of Semilog Regression	-0.07901406
[Initial] (ug/cm2)	1.742
Study Application Rate (lb ai/A)	1
Limit of Quantification (ug/cm2)	0.001

[Note: Enter application rate of crop if no data available in study rate cell.]

Exposure Inputs Summary

Exposure Potential	Transfer Coefficients (cm2/hour)		Activities
	Used For RA	Range	
Very Low	N/A	N/A	N/A
Low	500	486 to 2760	Irrigation, scouting, thinning, weeding immature plants
Medium	1500	486 to 2760	Irrigation and scouting mature plants
High	2500	486 to 2760	Hand harvesting
Very High	N/A	N/A	N/A

DAT	DFR LEVELS (ug/cm2)		DOSE (mg/kg/day)			MOES		
	Not Adjusted	Adjusted For Rate	Low Exposure	Medium Exposure	High Exposure	Low Exposure	Medium Exposure	High Exposure
0	1.890	1.890	0.0318	0.0953	0.1588	94.5	31.5	18.9
1	1.557	1.557	0.0262	0.0786	0.1308	114.7	38.2	22.9
2	1.292	1.292	0.0217	0.0651	0.1085	138.2	46.1	27.6
3	1.080	1.080	0.0181	0.0544	0.0907	165.3	55.1	33.1
4	0.909	0.909	0.0153	0.0458	0.0764	196.4	65.5	39.3
5	0.769	0.769	0.0129	0.0388	0.0646	232.2	77.4	46.4
6	0.655	0.655	0.0110	0.0330	0.0550	272.6	90.9	54.5
7	0.560	0.560	0.0094	0.0282	0.0470	318.9	106.3	63.8
8	0.482	0.482	0.0081	0.0243	0.0405	370.5	123.5	74.1
9	0.416	0.416	0.0070	0.0210	0.0349	429.3	143.1	85.9
10	0.361	0.361	0.0061	0.0182	0.0303	494.7	164.9	98.9
11	0.315	0.315	0.0053	0.0159	0.0265	566.9	189.0	113.4
12	0.275	0.275	0.0046	0.0139	0.0231	649.4	216.5	129.9
13	0.242	0.242	0.0041	0.0122	0.0203	737.9	246.0	147.6
14	0.213	0.213	0.0036	0.0107	0.0179	838.4	279.5	167.7
15	0.188	0.188	0.0032	0.0095	0.0158	949.8	316.6	190.0
16	0.167	0.167	0.0028	0.0084	0.0140	1069.3	356.4	213.9
17	0.148	0.148	0.0025	0.0075	0.0124	1206.6	402.2	241.3
18	0.132	0.132	0.0022	0.0067	0.0111	1352.8	450.9	270.6
19	0.118	0.118	0.0020	0.0059	0.0099	1513.3	504.4	302.7
20	0.106	0.106	0.0018	0.0053	0.0089	1684.6	561.5	336.9
21	0.095	0.095	0.0016	0.0048	0.0080	1879.7	626.6	375.9
22	0.086	0.086	0.0014	0.0043	0.0072	2076.4	692.1	415.3
23	0.077	0.077	0.0013	0.0039	0.0065	2319.1	773.0	463.8
24	0.070	0.070	0.0012	0.0035	0.0059	2551.0	850.3	510.2
25	0.064	0.064	0.0011	0.0032	0.0054	2790.2	930.1	558.0

Occupational Post-Application Risk Assessment Calculator Version 1 (8/9/00)

Chemical:	Vinclozolin
Reason:	TC Policy 3.1
Date:	08/15/2000
Transfer Coefficient Group:	Vine/trellis
Specific Crop(s) Considered:	Trellised snapbeans, kiwi
Application Rate of Crop (lb ai/A):	1

DFR Data Summary

Data Source (enter 1 if data available, 0 if defaults):	1
Source:	Peach DFR Data (MRIDs 42630001 & 43505901) - Agency Analysis
Slope of Semilog Regression:	-0.10840984
[Initial] (ug/cm2):	1.273
Study Application Rate (lb ai/A):	1
Limit of Quantification (ug/cm2):	0.001

(Note: Enter application rate of crop if no data available in study rate cell.)

Exposure Inputs Summary

Exposure Potential	Transfer Coefficients (cm2/hour)		Activities
	Used For RA	Range	
Very Low	N/A	N/A	N/A
Low	500	197 to 2302	Irrigation, scouting, hand weeding
Medium	1000	197 to 2302	Scouting, training, tying
High	5000	TBD	Hand harvest, thinning, pruning
Very High	N/A	N/A	N/A

DAT	DFR LEVELS (ug/cm2)		DOSE (mg/kg/day)				MOES			
	Not Adjusted	Adjusted For Rate	Low Exposure	Medium Exposure	High Exposure	Very High Exposure	Low Exposure	Medium Exposure	High Exposure	Very High Exposure
0	1.273	1.273	0.0214	0.0428	0.2139	N/A	140.3	70.1	14.0	N/A
1	1.142	1.142	0.0192	0.0384	0.1919	N/A	156.3	78.2	15.6	N/A
2	1.025	1.025	0.0172	0.0344	0.1722	N/A	174.2	87.1	17.4	N/A
3	0.920	0.920	0.0154	0.0309	0.1545	N/A	194.2	97.1	19.4	N/A
4	0.825	0.825	0.0139	0.0277	0.1386	N/A	216.4	108.2	21.6	N/A
5	0.740	0.740	0.0124	0.0249	0.1244	N/A	241.2	120.6	24.1	N/A
6	0.664	0.664	0.0112	0.0223	0.1116	N/A	268.8	134.4	26.9	N/A
7	0.596	0.596	0.0100	0.0200	0.1001	N/A	299.6	149.8	30.0	N/A
8	0.535	0.535	0.0090	0.0180	0.0898	N/A	333.9	167.0	33.4	N/A
9	0.480	0.480	0.0081	0.0161	0.0806	N/A	372.2	186.1	37.2	N/A
10	0.431	0.431	0.0072	0.0145	0.0723	N/A	414.8	207.4	41.5	N/A
11	0.386	0.386	0.0065	0.0130	0.0649	N/A	462.3	231.1	46.2	N/A
12	0.347	0.347	0.0058	0.0116	0.0582	N/A	515.2	257.6	51.5	N/A
13	0.311	0.311	0.0052	0.0104	0.0522	N/A	574.2	287.1	57.4	N/A
14	0.279	0.279	0.0047	0.0094	0.0469	N/A	639.9	320.0	64.0	N/A
15	0.250	0.250	0.0042	0.0084	0.0421	N/A	713.2	356.6	71.3	N/A
16	0.225	0.225	0.0038	0.0075	0.0377	N/A	794.9	397.4	79.5	N/A
17	0.202	0.202	0.0034	0.0068	0.0339	N/A	885.9	442.9	88.6	N/A
18	0.181	0.181	0.0030	0.0061	0.0304	N/A	987.3	493.7	98.7	N/A
19	0.162	0.162	0.0027	0.0055	0.0273	N/A	1100.4	550.2	110.0	N/A
20	0.146	0.146	0.0024	0.0049	0.0245	N/A	1226.4	613.2	122.6	N/A
21	0.131	0.131	0.0022	0.0044	0.0219	N/A	1366.8	683.4	136.7	N/A
22	0.117	0.117	0.0020	0.0039	0.0197	N/A	1523.3	761.6	152.3	N/A
23	0.105	0.105	0.0018	0.0035	0.0177	N/A	1697.7	848.9	169.8	N/A
24	0.094	0.094	0.0016	0.0032	0.0159	N/A	1892.1	946.1	189.2	N/A
25	0.085	0.085	0.0014	0.0028	0.0142	N/A	2108.8	1054.4	210.9	N/A
26	0.076	0.076	0.0013	0.0026	0.0128	N/A	2350.2	1175.1	235.0	N/A
27	0.068	0.068	0.0011	0.0023	0.0115	N/A	2619.3	1309.7	261.9	N/A
28	0.061	0.061	0.0010	0.0021	0.0103	N/A	2919.3	1459.6	291.9	N/A
29	0.055	0.055	0.0009	0.0018	0.0092	N/A	3253.5	1626.8	325.4	N/A
30	0.049	0.049	0.0008	0.0017	0.0083	N/A	3626.1	1813.0	362.6	N/A

Occupational Post-Application Risk Assessment Calculator Version 1 (8/9/00)

Chemical:	Vinclozolin
Reason:	TC Policy 3.1
Date:	08/15/2000
Transfer Coefficient Group:	Vine/trellis
Specific Crop(s) Considered:	Trellised snapbeans, kiwi
Application Rate of Crop (lb ai/A)	1

DFR Data Summary

Data Source (enter 1 if data available, 0 if defaults):	1
Source	Peach DFR Data (MRIDs 42830001 & 43505901) - BASF Analysis
Slope of Semilog Regression	-0.10840984
[Initial] (ug/cm2)	1.273
Study Application Rate (lb ai/A)	1
Limit of Quantification (ug/cm2)	0.001

(Note: Enter application rate of crop if no data available in study rate cell.)

Exposure Inputs Summary

Exposure Potential	Transfer Coefficients (cm2/hour)		Activities
	Used For RA	Range	
Very Low	N/A	N/A	N/A
Low	500	197 to 2302	Irrigation, scouting, hand weeding
Medium	1000	197 to 2302	Scouting, training, tying
High	5000	TBD	Hand harvest, thinning, pruning
Very High	N/A	N/A	N/A

DAT	DFR LEVELS (ug/cm2)		DOSE (mg/kg/day)				MOES			
	Not Adjusted	Adjusted For Rate	Low Exposure	Medium Exposure	High Exposure	Very High Exposure	Low Exposure	Medium Exposure	High Exposure	Very High Exposure
0	1.217	1.217	0.0204	0.0406	0.2045	N/A	146.7	73.4	14.7	N/A
1	0.801	0.801	0.0135	0.0269	0.1345	N/A	223.0	111.5	22.3	N/A
2	0.549	0.549	0.0092	0.0184	0.0922	N/A	325.5	162.8	32.6	N/A
3	0.388	0.388	0.0065	0.0131	0.0653	N/A	459.8	229.9	46.0	N/A
4	0.283	0.283	0.0048	0.0095	0.0475	N/A	631.5	315.7	63.1	N/A
5	0.211	0.211	0.0035	0.0071	0.0354	N/A	847.1	423.5	84.7	N/A
6	0.160	0.160	0.0027	0.0054	0.0269	N/A	1113.3	556.7	111.3	N/A
7	0.124	0.124	0.0021	0.0042	0.0209	N/A	1437.5	718.8	143.8	N/A
8	0.098	0.098	0.0016	0.0033	0.0164	N/A	1827.5	913.7	182.7	N/A
9	0.078	0.078	0.0013	0.0026	0.0131	N/A	2291.4	1145.7	229.1	N/A
10	0.063	0.063	0.0011	0.0021	0.0106	N/A	2838.0	1419.0	283.8	N/A
11	0.051	0.051	0.0009	0.0017	0.0086	N/A	3476.5	1738.2	347.6	N/A
12	0.042	0.042	0.0007	0.0014	0.0071	N/A	4216.5	2108.2	421.6	N/A
13	0.035	0.035	0.0006	0.0012	0.0059	N/A	5068.0	2534.0	506.8	N/A
14	0.030	0.030	0.0005	0.0010	0.0050	N/A	6041.8	3020.9	604.2	N/A
15	0.025	0.025	0.0004	0.0008	0.0042	N/A	7148.9	3574.4	714.9	N/A
16	0.021	0.021	0.0004	0.0007	0.0036	N/A	8400.6	4200.3	840.1	N/A
17	0.018	0.018	0.0003	0.0006	0.0031	N/A	9809.5	4904.7	980.9	N/A
18	0.016	0.016	0.0003	0.0005	0.0026	N/A	11387.0	5693.5	1138.7	N/A
19	0.014	0.014	0.0002	0.0005	0.0023	N/A	13146.7	6573.3	1314.7	N/A
20	0.012	0.012	0.0002	0.0004	0.0020	N/A	15101.2	7550.6	1510.1	N/A
21	0.010	0.010	0.0002	0.0003	0.0017	N/A	17266.6	8633.3	1726.7	N/A
22	0.009	0.009	0.0002	0.0003	0.0015	N/A	19653.5	9826.7	1965.3	N/A
23	0.008	0.008	0.0001	0.0003	0.0013	N/A	22279.7	11139.8	2228.0	N/A
24	0.007	0.007	0.0001	0.0002	0.0012	N/A	25158.0	12579.0	2515.8	N/A
25	0.006	0.006	0.0001	0.0002	0.0011	N/A	28308.7	14154.4	2830.9	N/A