US Environmental Protection Agency
Office of Pesticide Programs

APPENDIX C. ESTIMATED EXPOSURES AND RISK QUOTIENTS FOR TERRESTRIAL ANIMALS AND PLANTS (TERRPLANT V1.2.2, T-REX V. 1.3.1 & T-HERPS V. 1.0)

October 18, 2007

APPENDIX C. ESTIMATED EXPOSURES AND RISK QUOTIENTS FOR TERRESTRIAL ANIMALS AND PLANTS (TERRPLANT V1.2.2, T-REX V. 1.3.1 & T-HERPS V. 1.0)

TerrPlant v. 1.2.2
Green values signify user inputs (Tables 1, 2 and 4).
Input and output guidance is in popups indicated by red arrows.

Table 1. Chemical Identity.	
Chemical Name	**Bensulide**
PC code	**9801**
Use	**Turf Gran**
Application Method	**Broadcast**
Application Form	**Granular**
Solubility in Water (ppm)	**56**

Table 2. Input parameters used to derive EECs.			
Input Parameter	**Symbol**	**Value**	**Units**
Application Rate	A	**32**	**lb/acre**
Incorporation	I	**1**	none
Runoff Fraction	R	**0.02**	none
Drift Fraction	D	**0**	none

Table 3. EECs for Bensulide. Units in lb/acre.		
Description	**Equation**	**EEC**
Runoff to dry areas	(A/I)*R	0.64
Runoff to semi-aquatic areas	(A/I)*R*10	6.4
Spray drift	**A*D**	**0**
Total for dry areas	**((A/I)*R)+(A*D)**	**0.64**
Total for semi-aquatic areas	**((A/I)*R*10)+(A*D)**	**6.4**

Table 4. Plant survival and growth data used for RQ derivation. Units are in lb/acre.				
	Seedling Emergence		**Vegetative Vigor**	
Plant type	**EC_{25}**	**NOAEC**	**EC_{25}**	**NOAEC**
Monocot	**2.1**	**0.38**	**6**	**0.75**
Dicot	**6**	**1.5**	**1.3**	**0.38**

Table 5. RQ values for plants in dry and semi-aquatic areas exposed to Bensulide through runoff and/or spray drift.*				
Plant Type	**Listed Status**	**Dry**	**Semi-Aquatic**	**Spray Drift**
Monocot	non-listed	0.30	3.05	<0.1
Monocot	listed	1.68	16.84	<0.1
Dicot	non-listed	0.11	1.07	<0.1
Dicot	listed	0.43	4.27	<0.1

*If RQ > 1.0, the LOC is exceeded, resulting in potential for risk to that plant group.

TerrPlant v. 1.2.2
Green values signify user inputs (Tables 1, 2 and 4).
Input and output guidance is in popups indicated by red arrows.

Table 1. Chemical Identity.	
Chemical Name	**Bensulide**
PC code	**9801**
Use	**Turf EC**
Application Method	**Broadcast**
Application Form	**EC**
Solubility in Water (ppm)	**56**

Table 2. Input parameters used to derive EECs.			
Input Parameter	**Symbol**	**Value**	**Units**
Application Rate	A	**13.5**	**lb/acre**
Incorporation	I	**1**	none
Runoff Fraction	R	**0.02**	none
Drift Fraction	D	**0.01**	none

Table 3. EECs for Bensulide. Units in lb/acre.		
Description	**Equation**	**EEC**
Runoff to dry areas	(A/I)*R	0.27
Runoff to semi-aquatic areas	(A/I)*R*10	2.7
Spray drift	**A*D**	**0.135**
Total for dry areas	**((A/I)*R)+(A*D)**	**0.405**
Total for semi-aquatic areas	**((A/I)*R*10)+(A*D)**	**2.835**

Table 4. Plant survival and growth data used for RQ derivation. Units are in lb/acre.				
	Seedling Emergence		**Vegetative Vigor**	
Plant type	**EC_{25}**	**NOAEC**	**EC_{25}**	**NOAEC**
Monocot	**2.1**	**0.38**	**6**	**0.75**
Dicot	**6**	**1.5**	**1.3**	**0.38**

Table 5. RQ values for plants in dry and semi-aquatic areas exposed to Bensulide through runoff and/or spray drift.*				
Plant Type	**Listed Status**	**Dry**	**Semi-Aquatic**	**Spray Drift**
Monocot	non-listed	0.19	1.35	<0.1
Monocot	listed	1.07	7.46	0.36
Dicot	non-listed	<0.1	0.47	0.10
Dicot	listed	0.27	1.89	0.36

*If RQ > 1.0, the LOC is exceeded, resulting in potential for risk to that plant group.

TerrPlant v. 1.2.2
Green values signify user inputs (Tables 1, 2 and 4).
Input and output guidance is in popups indicated by red arrows.

Table 1. Chemical Identity.	
Chemical Name	**Bensulide**
PC code	**9801**
Use	**Broccoli raab etc**
Application Method	**Broadcast**
Application Form	**ec**
Solubility in Water (ppm)	**56**

Table 2. Input parameters used to derive EECs.			
Input Parameter	**Symbol**	**Value**	**Units**
Application Rate	A	**6**	**lb/acre**
Incorporation	I	**1**	none
Runoff Fraction	R	**0.02**	none
Drift Fraction	D	**0.01**	none

Table 3. EECs for Bensulide. Units in lb/acre.		
Description	**Equation**	**EEC**
Runoff to dry areas	(A/I)*R	0.12
Runoff to semi-aquatic areas	(A/I)*R*10	1.2
Spray drift	**A*D**	**0.06**
Total for dry areas	**((A/I)*R)+(A*D)**	**0.18**
Total for semi-aquatic areas	**((A/I)*R*10)+(A*D)**	**1.26**

Table 4. Plant survival and growth data used for RQ derivation. Units are in lb/acre.				
	Seedling Emergence		**Vegetative Vigor**	
Plant type	**EC_{25}**	**NOAEC**	**EC_{25}**	**NOAEC**
Monocot	**2.1**	**0.38**	**6**	**0.75**
Dicot	**6**	**1.5**	**1.3**	**0.38**

Table 5. RQ values for plants in dry and semi-aquatic areas exposed to Bensulide through runoff and/or spray drift.*				
Plant Type	**Listed Status**	**Dry**	**Semi-Aquatic**	**Spray Drift**
Monocot	non-listed	<0.1	0.60	<0.1
Monocot	listed	0.47	3.32	0.16
Dicot	non-listed	<0.1	0.21	<0.1
Dicot	listed	0.12	0.84	0.16

*If RQ > 1.0, the LOC is exceeded, resulting in potential for risk to that plant group.

TerrPlant v. 1.2.2
Green values signify user inputs (Tables 1, 2 and 4).
Input and output guidance is in popups indicated by red arrows.

Table 1. Chemical Identity.	
Chemical Name	**Bensulide**
PC code	**9801**
Use	**Ornamental, Broccoli etc**
Application Method	**Broadcast**
Application Form	**EC**
Solubility in Water (ppm)	**56**

Table 2. Input parameters used to derive EECs.			
Input Parameter	**Symbol**	**Value**	**Units**
Application Rate	A	**9**	**lb/acre**
Incorporation	I	**1**	none
Runoff Fraction	R	**0.02**	none
Drift Fraction	D	**0.01**	none

Table 3. EECs for Bensulide. Units in lb/acre.		
Description	**Equation**	**EEC**
Runoff to dry areas	(A/I)*R	0.18
Runoff to semi-aquatic areas	(A/I)*R*10	1.8
Spray drift	**A*D**	**0.09**
Total for dry areas	**((A/I)*R)+(A*D)**	**0.27**
Total for semi-aquatic areas	**((A/I)*R*10)+(A*D)**	**1.89**

Table 4. Plant survival and growth data used for RQ derivation. Units are in lb/acre.				
	Seedling Emergence		**Vegetative Vigor**	
Plant type	**EC_{25}**	**NOAEC**	**EC_{25}**	**NOAEC**
Monocot	**2.1**	**0.38**	**6**	**0.75**
Dicot	**6**	**1.5**	**1.3**	**0.38**

Table 5. RQ values for plants in dry and semi-aquatic areas exposed to Bensulide through runoff and/or spray drift.*				
Plant Type	**Listed Status**	**Dry**	**Semi-Aquatic**	**Spray Drift**
Monocot	non-listed	0.13	0.90	<0.1
Monocot	listed	0.71	4.97	0.24
Dicot	non-listed	<0.1	0.32	<0.1
Dicot	listed	0.18	1.26	0.24
*If RQ > 1.0, the LOC is exceeded, resulting in potential for risk to that plant group.				

TerrPlant v. 1.2.2
Green values signify user inputs (Tables 1, 2 and 4).
Input and output guidance is in popups indicated by red arrows.

Table 1. Chemical Identity.	
Chemical Name	**Bensulide**
PC code	**9801**
Use	**ornamental**
Application Method	**Broadcast**
Application Form	**granular**
Solubility in Water (ppm)	**56**

Table 2. Input parameters used to derive EECs.			
Input Parameter	**Symbol**	**Value**	**Units**
Application Rate	A	**6**	**lb/acre**
Incorporation	I	**1**	none
Runoff Fraction	R	**0.02**	none
Drift Fraction	D	**0**	none

Table 3. EECs for Bensulide. Units in lb/acre.		
Description	**Equation**	**EEC**
Runoff to dry areas	(A/I)*R	0.12
Runoff to semi-aquatic areas	(A/I)*R*10	1.2
Spray drift	**A*D**	**0**
Total for dry areas	**((A/I)*R)+(A*D)**	**0.12**
Total for semi-aquatic areas	**((A/I)*R*10)+(A*D)**	**1.2**

Table 4. Plant survival and growth data used for RQ derivation. Units are in lb/acre.				
	Seedling Emergence		**Vegetative Vigor**	
Plant type	**EC_{25}**	**NOAEC**	**EC_{25}**	**NOAEC**
Monocot	**2.1**	**0.38**	**6**	**0.75**
Dicot	**6**	**1.5**	**1.3**	**0.38**

Table 5. RQ values for plants in dry and semi-aquatic areas exposed to Bensulide through runoff and/or spray drift.*				
Plant Type	**Listed Status**	**Dry**	**Semi-Aquatic**	**Spray Drift**
Monocot	non-listed	<0.1	0.57	<0.1
Monocot	listed	0.32	3.16	<0.1
Dicot	non-listed	<0.1	0.20	<0.1
Dicot	listed	<0.1	0.80	<0.1

*If RQ > 1.0, the LOC is exceeded, resulting in potential for risk to that plant group.

Upper Bound Kenaga Residues For RQ Calculation

Chemical Name:	Bensulide
Use	golf course, residential lawn, turf (gran)
Formulation	Herbicide
Application Rate	32 lbs a.i./acre
Half-life	35 days
Application Interval	120 days
Maximum # Apps./Year	2
Length of Simulation	1 year

Acute and Chronic RQs are based on the Upp
Kenaga Residues.

The maximum single day residue estimation is
both the acute and reproduction RQs.

RQs reported as "0.00" in the RQ tables be
<0.01 in your assessment. This is due to r
figure issues in Excel.

Questions?
Comments?
Click here

Endpoints

Avian	Bobwhite quail	LD50 (mg/kg-bw)	1386.00
	Bobwhite quail	LC50 (mg/kg-diet)	0.00
	Mallard duck	NOAEL(mg/kg-bw)	0.00
	Mallard duck	NOAEC (mg/kg-diet)	2.50
Mammals		LD50 (mg/kg-bw)	270.00
		LC50 (mg/kg-diet)	0.00
		NOAEL (mg/kg-bw)	7.50
		NOAEC (mg/kg-diet)	150.00

Dietary-based EECs (ppm)	Kenaga Values
Short Grass	8393.28
Tall Grass	3846.92
Broadleaf plants/sm Insects	4721.22
Fruits/pods/seeds/lg insects	524.58

Avian Results

Avian Class	Body Weight (g)	Ingestion (F-dry) (g bw/day)	Ingestion (F-wet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Small	20	5	23	114	2.28E-02
Mid	100	13	65	65	6.49E-02
Large	1000	58	291	29	2.91E-01

Avian Body Weight (g)	Adjusted LD50 (mg/kg-bw)
20	998.52
100	1271.16
1000	1795.56

Dose-based EECs (mg/kg-bw)	Avian Classes and Body Weights		
	small 20 g	mid 100 g	large 1000 g
Short Grass	9559.10	5451.00	2440.49
Tall Grass	4381.26	2498.38	1118.56
Broadleaf plants/sm Insects	5377.00	3066.19	1372.77
Fruits/pods/seeds/lg insects	597.44	340.69	152.53

Dose-based RQs (Dose-based EEC/adjusted LD50)	Avian Acute RQs		
	20 g	100 g	1000 g
Short Grass	9.57	4.29	1.36
Tall Grass	4.39	1.97	0.62
Broadleaf plants/sm insects	5.38	2.41	0.76
Fruits/pods/seeds/lg insects	0.60	0.27	0.08

Dietary-based RQs (Dietary-based EEC/LC50 or NOAEC)	RQs	
	Acute	Chronic
Short Grass	#DIV/0!	3357.31
Tall Grass	#DIV/0!	1538.77
Broadleaf plants/sm Insects	#DIV/0!	1888.49
Fruits/pods/seeds/lg insects	#DIV/0!	209.83

Note: To provide risk management with the maximum possible information, it is recommended that both the dose-based and concentration-based RQs be calculated when data are available

Bensulide golf course, residential lawn, turf (gran) Upper bound Kenaga Residues

Mammalian Results

Mammalian Class	Body Weight	Ingestion (F-dry) (g bwt/day)	Ingestion (F-wet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Herbivores/ insectivores	15	3	14	95	1.43E-02
	35	5	23	66	2.31E-02
	1000	31	153	15	1.53E-01
Grainvores	15	3	3	21	3.10E-03
	35	5	5	15	5.13E-03
	1000	31	34	3	3.40E-02

Mammalian Class	Body Weight	Adjusted LD50	Adjusted NOAEL
Herbivores/ insectivores	15	593.41	16.48
	35	480.14	13.34
	1000	207.67	5.77
Grainvores	15	593.41	16.48
	35	480.14	13.34
	1000	207.67	5.77

Dose-Based EECs (mg/kg-bw)	Mammalian Classes and Body weight					
	Herbivores/ insectivores			Granivores		
	15 g	35 g	1000 g	15 g	35 g	1000 g
Short Grass	8002.35	5530.69	1282.31			
Tall Grass	3667.74	2534.90	587.73			
Broadleaf plants/sm Insects	4501.32	3111.01	721.30			
Fruits/pods/seeds/lg insects	500.15	345.67	80.14	111.14	76.82	17.81

Dose-based RQs (Dose-based EEC/LD50 or	15 g mammal		35 g mammal		1000 g mammal	
	Acute	Chronic	Acute	Chronic	Acute	Chronic
Short Grass	13.49	485.47	11.52	414.68	6.17	222.29
Tall Grass	6.18	222.51	5.28	190.06	2.83	101.88
Broadleaf plants/sm insects	7.59	273.08	6.48	233.26	3.47	125.04
Fruits/pods/lg insects	0.84	30.34	0.72	25.92	0.39	13.89
Seeds (granivore)	0.19	6.74	0.16	5.76	0.09	3.09

Dietary-based RQs (Dietary-based EEC/LC50 or NOAEC)	Mammal RQs	
	Acute	Chronic
Short Grass	#DIV/0!	55.96
Tall Grass	#DIV/0!	25.65
Broadleaf plants/sm insects	#DIV/0!	31.47
Fruits/pods/seeds/lg insects	#DIV/0!	3.50

Chemical: Bensulide

LD50 ft-2

INPUTS	Do not overwrite these numbers.	
Application Rate:	32	lbs / acre
% A.I.:	100.00%	
Avian LD50 (20g):	998.52	mg/kg bw
(100g)	1271.16	
(1000g)	1795.56	
Mammalian LD50 (15g):	593.41	mg/kg bw
(35g)	480.14	
(1000g)	207.67	
Row Spacing:	0	inches
Bandwidth:	0	inches
Unincorporation:	100%	

Changes to the inputs mus
made in the "INPUTS" wor

Questions?
Comments?
Click here

Row/Band/In-furrow applications

Granular

Intermediate Calculations	
# rows acre-1:	N/A
row length (ft):	N/A
lb ai/1000 ft row:	N/A
bandwidth (ft):	N/A
mg ai/ft2:	N/A
exposed mg ai/ft2:	N/A

LD50 ft-2		
	wgt class	
Avian	20 g	N/A
	100 g	N/A
	1000 g	N/A
Mammal	15 g	N/A
	35 g	N/A
	1000 g	N/A

Liquid

Intermediate Calculations	
mg a.i./1000 ft row:	N/A
bandwidth:	N/A
mg a.i./ft2:	N/A
exposed mg a.i./ft2:	N/A

LD50 ft-2		
	wgt class	
Avian	20 g	N/A
	100 g	N/A
	1000 g	N/A
Mammal	15 g	N/A
	35 g	N/A
	1000 g	N/A

Broadcast applications

Granular

Intermediate Calculations	
mg ai/ft2:	333.22

LD50 ft-2		
	wgt class	
Avian	20 g	16.69
	100 g	2.62
	1000 g	0.19
Mammal	15 g	37.43
	35 g	19.83
	1000 g	1.60

Formulas used in the calculations are in the User's Guide

Upper Bound Kenaga Residues For RQ Calculation

Chemical Name:	Bensulide
Use	Residential Lawn (EC)
Formulation	Herbicide
Application Rate	13.5 lbs a.i./acre
Half-life	35 days
Application Interval	120 days
Maximum # Apps./Year	2
Length of Simulation	1 year

Acute and Chronic RQs are based on the Upp
Kenaga Residues.

The maximum single day residue estimation is
both the acute and reproduction RQs.

RQs reported as "0.00" in the RQ tables be
<0.01 in your assessment. This is due to r
figure issues in Excel.

Questions?
Comments?
Click here

Endpoints

Avian	Bobwhite quail	LD50 (mg/kg-bw)	1386.00
	Bobwhite quail	LC50 (mg/kg-diet)	0.00
	Mallard duck	NOAEL(mg/kg-bw)	0.00
	Mallard duck	NOAEC (mg/kg-diet)	2.50
Mammals		LD50 (mg/kg-bw)	270.00
		LC50 (mg/kg-diet)	0.00
		NOAEL (mg/kg-bw)	7.50
		NOAEC (mg/kg-diet)	150.00

Dietary-based EECs (ppm)	Kenaga Values
Short Grass	3540.91
Tall Grass	1622.92
Broadleaf plants/sm Insects	1991.76
Fruits/pods/seeds/lg insects	221.31

Avian Results

Avian Class	Body Weight (g)	Ingestion (F-dry) (g bw/day)	Ingestion (F-wet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Small	20	5	23	114	2.28E-02
Mid	100	13	65	65	6.49E-02
Large	1000	58	291	29	2.91E-01

Avian Body Weight (g)	Adjusted LD50 (mg/kg-bw)
20	998.52
100	1271.16
1000	1795.56

Dose-based EECs (mg/kg-bw)	Avian Classes and Body Weights		
	small 20 g	mid 100 g	large 1000 g
Short Grass	4032.75	2299.64	1029.58
Tall Grass	1848.34	1054.00	471.89
Broadleaf plants/sm Insects	2268.42	1293.55	579.14
Fruits/pods/seeds/lg insects	252.05	143.73	64.35

Dose-based RQs (Dose-based EEC/adjusted LD50)	Avian Acute RQs		
	20 g	100 g	1000 g
Short Grass	4.04	1.81	0.57
Tall Grass	1.85	0.83	0.26
Broadleaf plants/sm Insects	2.27	1.02	0.32
Fruits/pods/seeds/lg insects	0.25	0.11	0.04

Dietary-based RQs (Dietary-based EEC/LC50 or NOAEC)	RQs	
	Acute	Chronic
Short Grass	#DIV/0!	1416.37
Tall Grass	#DIV/0!	649.17
Broadleaf plants/sm Insects	#DIV/0!	796.71
Fruits/pods/seeds/lg insects	#DIV/0!	88.52

Note: To provide risk management with the maximum possible information, it is recommended that both the dose-based and concentration-based RQs be calculated when data are available

Bensulide | Residential Lawn (EC) | Upper bound Kenaga Residues

Mammalian Results

Mammalian Class	Body Weight	Ingestion (F-dry) (g bwt/day)	Ingestion (F-wet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Herbivores/ Insectivores	15	3	14	95	1.43E-02
	35	5	23	66	2.31E-02
	1000	31	153	15	1.53E-01
Grainvores	15	3	3	21	3.10E-03
	35	5	5	15	5.13E-03
	1000	31	34	3	3.40E-02

Mammalian Class	Body Weight	Adjusted LD50	Adjusted NOAEL
Herbivores/ Insectivores	15	593.41	16.48
	35	480.14	13.34
	1000	207.67	5.77
Grainvores	15	593.41	16.48
	35	480.14	13.34
	1000	207.67	5.77

Dose-Based EECs (mg/kg-bw)	Mammalian Classes and Body weight					
	Herbivores/ insectivores			Granivores		
	15 g	35 g	1000 g	15 g	35 g	1000 g
Short Grass	3375.99	2333.26	540.97			
Tall Grass	1547.33	1069.41	247.95			
Broadleaf plants/sm Insects	1898.99	1312.46	304.30			
Fruits/pods/seeds/lg insects	211.00	145.83	33.81	46.89	32.41	7.51

Dose-based RQs (Dose-based EEC/LD50 or	15 g mammal		35 g mammal		1000 g mammal	
	Acute	Chronic	Acute	Chronic	Acute	Chronic
Short Grass	5.69	204.81	4.86	174.95	2.60	93.78
Tall Grass	2.61	93.87	2.23	80.18	1.19	42.98
Broadleaf plants/sm Insects	3.20	115.20	2.73	98.41	1.47	52.75
Fruits/pods/lg insects	0.36	12.80	0.30	10.93	0.16	5.86
Seeds (granivore)	0.08	2.84	0.07	2.43	0.04	1.30

Dietary-based RQs (Dietary-based EEC/LC50 or NOAEC)	Mammal RQs	
	Acute	Chronic
Short Grass	#DIV/0!	23.61
Tall Grass	#DIV/0!	10.82
Broadleaf plants/sm Insects	#DIV/0!	13.28
Fruits/pods/seeds/lg insects	#DIV/0!	1.48

Upper Bound Kenaga Residues For RQ Calculation

Chemical Name:	Bensulide
Use	Ornamentals
Formulation	Herbicide
Application Rate	12.5 lbs a.i./acre
Half-life	35 days
Application Interval	365 days
Maximum # Apps./Year	2
Length of Simulation	1 year

Acute and Chronic RQs are based on the Upp
Kenaga Residues.

The maximum single day residue estimation is
both the acute and reproduction RQs.

RQs reported as "0.00" in the RQ tables be
<0.01 in your assessment. This is due to r
figure issues in Excel.

Questions?
Comments?
Click here

Endpoints

Avian	Bobwhite quail	LD50 (mg/kg-bw)	1386.00
	Bobwhite quail	LC50 (mg/kg-diet)	5620.00
	Mallard duck	NOAEL (mg/kg-bw)	0.00
	Mallard duck	NOAEC (mg/kg-diet)	2.50
Mammals		LD50 (mg/kg-bw)	270.00
		LC50 (mg/kg-diet)	0.00
		NOAEL (mg/kg-bw)	7.50
		NOAEC (mg/kg-diet)	150.00

Dietary-based EECs (ppm)	Kenaga Values
Short Grass	3002.18
Tall Grass	1376.00
Broadleaf plants/sm insects	1688.72
Fruits/pods/seeds/lg insects	187.64

Avian Results

Avian Class	Body Weight (g)	Ingestion (F-dry) (g bw/day)	Ingestion (F-wet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Small	20	5	23	114	2.28E-02
Mid	100	13	65	65	6.49E-02
Large	1000	58	291	29	2.91E-01

Avian Body Weight (g)	Adjusted LD50 (mg/kg-bw)
20	998.52
100	1271.16
1000	1795.56

Dose-based EECs (mg/kg-bw)	Avian Classes and Body Weights: small 20 g	mid 100 g	large 1000 g
Short Grass	3419.18	1949.76	872.93
Tall Grass	1567.12	893.64	400.09
Broadleaf plants/sm insects	1923.29	1096.74	491.03
Fruits/pods/seeds/lg insects	213.70	121.86	54.56

Dose-based RQs (Dose-based EEC/adjusted LD50)	Avian Acute RQs: 20 g	100 g	1000 g
Short Grass	3.42	1.53	0.49
Tall Grass	1.57	0.70	0.22
Broadleaf plants/sm insects	1.93	0.86	0.27
Fruits/pods/seeds/lg insects	0.21	0.10	0.03

Dietary-based RQs (Dietary-based EEC/LC50 or NOAEC)	RQs: Acute	Chronic
Short Grass	0.53	1200.87
Tall Grass	0.24	550.40
Broadleaf plants/sm insects	0.30	675.49
Fruits/pods/seeds/lg insects	0.03	75.05

Note: To provide risk management with the maximum possible information,
it is recommended that both the dose-based and concentration-based
RQs be calculated when data are available

Bensulide Ornamentals Upper bound Kenaga Residues

Mammalian Results

Mammalian Class	Body Weight	Ingestion (F-dry) (g bwt/day)	Ingestion (F-wet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Herbivores/ Insectivores	15	3	14	95	1.43E-02
	35	5	23	66	2.31E-02
	1000	31	153	15	1.53E-01
Grainvores	15	3	3	21	3.18E-03
	35	5	5	15	5.13E-03
	1000	31	34	3	3.40E-02

Mammalian Class	Body Weight	Adjusted LD50	Adjusted NOAEL
Herbivores/ Insectivores	15	593.41	16.48
	35	480.14	13.34
	1000	207.67	5.77
Grainvores	15	593.41	16.48
	35	480.14	13.34
	1000	207.67	5.77

Dose-Based EECs (mg/kg-bw)	Mammalian Classes and Body weight: Herbivores/ Insectivores 15 g	35 g	1000 g	Granivores 15 g	35 g	1000 g
Short Grass	2862.35	1978.26	458.67			
Tall Grass	1311.91	906.70	210.22			
Broadleaf plants/sm insects	1610.07	1112.77	258.00			
Fruits/pods/seeds/lg insects	178.90	123.64	28.67	39.75	27.48	6.37

Dose-based RQs (Dose-based EEC/LD50 or	15 g mammal: Acute	Chronic	35 g mammal: Acute	Chronic	1000 g mammal: Acute	Chronic
Short Grass	4.82	173.65	4.12	148.33	2.21	79.51
Tall Grass	2.21	79.59	1.89	67.98	1.01	36.44
Broadleaf plants/sm insects	2.71	97.68	2.32	83.43	1.24	44.72
Fruits/pods/lg insects	0.30	10.85	0.26	9.27	0.14	4.97
Seeds (granivore)	0.07	2.41	0.06	2.06	0.03	1.10

Dietary-based RQs (Dietary-based EEC/LC50 or NOAEC)	Mammal RQs: Acute	Chronic
Short Grass	#DIV/0!	20.01
Tall Grass	#DIV/0!	9.17
Broadleaf plants/sm insects	#DIV/0!	11.26
Fruits/pods/seeds/lg insects	#DIV/0!	1.25

Note: To provide risk management with the maximum possible information,
it is recommended that both the dose-based and concentration-based
RQs be calculated when data are available

Chemical: Bensulide

LD50 ft-2

INPUTS	Do not overwrite these numbers.	
Application Rate:	12.5	lbs / acre
% A.I.:	100.00%	
Avian LD50 (20g):	998.52	mg/kg bw
(100g)	1271.16	
(1000g)	1795.56	
Mammalian LD50 (15g):	593.41	mg/kg bw
(35g)	480.14	
(1000g)	207.67	
Row Spacing:	0	inches
Bandwidth:	0	inches
Unincorporation:	100%	

Changes to the inputs mus
made in the "INPUTS" worl

Questions?
Comments?
Click here

Row/Band/In-furrow applications

Granular

Intermediate Calculations	
# rows acre-1:	N/A
row length (ft):	N/A
lb ai/1000 ft row:	N/A
bandwidth (ft):	N/A
mg ai/ft2:	N/A
exposed mg ai/ft2:	N/A

LD50 ft-2		
	wgt class	
Avian	20 g	N/A
	100 g	N/A
	1000 g	N/A
Mammal	15 g	N/A
	35 g	N/A
	1000 g	N/A

Liquid

Intermediate Calculations	
mg a.i./1000 ft row:	N/A
bandwidth:	N/A
mg a.i./ft2:	N/A
exposed mg a.i./ft2:	N/A

LD50 ft-2		
	wgt class	
Avian	20 g	N/A
	100 g	N/A
	1000 g	N/A
Mammal	15 g	N/A
	35 g	N/A
	1000 g	N/A

Broadcast applications

Granular

Intermediate Calculations	
mg ai/ft2:	130.16

LD50 ft-2		
	wgt class	
Avian	20 g	6.52
	100 g	1.02
	1000 g	0.07
Mammal	15 g	14.62
	35 g	7.75
	1000 g	0.63

Upper Bound Kenaga Residues For RQ Calculation

Chemical Name:	Bensulide
Use	ables, Lettuce (head,leaf), brussel sprout, c
Formulation	Herbicide
Application Rate	9 lbs a.i./acre
Half-life	35 days
Application Interval	365 days
Maximum # Apps./Year	1
Length of Simulation	1 year

Acute and Chronic RQs are based on the Upp
Kenaga Residues.

The maximum single day residue estimation is
both the acute and reproduction RQs.

RQs reported as "0.00" in the RQ tables be
<0.01 in your assessment. This is due to r
figure issues in Excel.

Questions?
Comments?
Click here

Endpoints

Avian	Bobwhite quail	LD50 (mg/kg-bw)	1386.00
	Bobwhite quail	LC50 (mg/kg-diet)	5620.00
	Mallard duck	NOAEL(mg/kg-bw)	0.00
	Mallard duck	NOAEC (mg/kg-diet)	2.50
Mammals		LD50 (mg/kg-bw)	270.00
		LC50 (mg/kg-diet)	0.00
		NOAEL (mg/kg-bw)	7.50
		NOAEC (mg/kg-diet)	150.00

Dietary-based EECs (ppm)	Kenaga Values
Short Grass	2160.00
Tall Grass	990.00
Broadleaf plants/sm Insects	1215.00
Fruits/pods/seeds/lg insects	135.00

Avian Results

Avian Class	Body Weight (g)	Ingestion (F-dry) (g bw/day)	Ingestion (F-wet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Small	20	5	23	114	2.28E-02
Mid	100	13	65	65	6.49E-02
Large	1000	58	291	29	2.91E-01

Avian Body Weight (g)	Adjusted LD50 (mg/kg-bw)
20	998.52
100	1271.16
1000	1795.56

Dose-based EECs (mg/kg-bw)	Avian Classes and Body Weights		
	small 20 g	mid 100 g	large 1000 g
Short Grass	2460.02	1402.81	628.06
Tall Grass	1127.51	642.95	287.86
Broadleaf plants/sm Insects	1383.76	789.08	353.28
Fruits/pods/seeds/lg insects	153.75	87.68	39.25

Dose-based RQs (Dose-based EEC/adjusted LD50)	Avian Acute RQs		
	20 g	100 g	1000 g
Short Grass	2.46	1.10	0.35
Tall Grass	1.13	0.51	0.16
Broadleaf plants/sm insects	1.39	0.62	0.20
Fruits/pods/seeds/lg insects	0.15	0.07	0.02

Dietary-based RQs (Dietary-based EEC/LC50 or NOAEC)	RQs	
	Acute	Chronic
Short Grass	0.38	864.00
Tall Grass	0.18	396.00
Broadleaf plants/sm Insects	0.22	486.00
Fruits/pods/seeds/lg insects	0.02	54.00

Note: To provide risk management with the maximum possible information, it is recommended that both the dose-based and concentration-based RQs be calculated when data are available

Bensulide **Ornamental, Broccoli, cabbage, cauliflower, collards, cress Upper bound Kenaga Residues**

Mammalian Results

Mammalian Class	Body Weight	Ingestion (F-dry) (g bwt/day)	Ingestion (F-wet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Herbivores/ insectivores	15	3	14	95	1.43E-02
	35	5	23	66	2.31E-02
	1000	31	153	15	1.53E-01
Grainvores	15	3	21	141	3.18E-03
	35	5	5	15	5.13E-03
	1000	31	34	3	3.40E-02

Mammalian Class	Body Weight	Adjusted LD50	Adjusted NOAEL
Herbivores/ insectivores	15	593.41	16.48
	35	480.14	13.34
	1000	207.67	5.77
Grainvores	15	593.41	16.48
	35	480.14	13.34
	1000	207.67	5.77

Dose-Based EECs (mg/kg-bw)	Mammalian Classes and Body weight					
	Herbivores/ insectivores			Granivores		
	15 g	35 g	1000 g	15 g	35 g	1000 g
Short Grass	2059.39	1423.32	330.00			
Tall Grass	943.89	652.35	151.25			
Broadleaf plants/sm Insects	1158.41	800.62	185.63			
Fruits/pods/seeds/lg insects	128.71	88.96	20.63	28.60	19.77	4.58

Dose-based RQs (Dose-based EEC/LD50 or	15 g mammal		35 g mammal		1000 g mammal	
	Acute	Chronic	Acute	Chronic	Acute	Chronic
Short Grass	3.47	124.93	2.96	106.72	1.59	57.21
Tall Grass	1.59	57.26	1.36	48.91	0.73	26.22
Broadleaf plants/sm Insects	1.95	70.28	1.67	60.03	0.89	32.18
Fruits/pods/lg insects	0.22	7.81	0.19	6.67	0.10	3.58
Seeds (granivore)	0.05	1.74	0.04	1.48	0.02	0.79

Dietary-based RQs (Dietary-based EEC/LC50 or NOAEC)	Mammal RQs	
	Acute	Chronic
Short Grass	#DIV/0!	14.40
Tall Grass	#DIV/0!	6.60
Broadleaf plants/sm Insects	#DIV/0!	8.10
Fruits/pods/seeds/lg insects	#DIV/0!	0.90

Upper Bound Kenaga Residues For RQ Calculation

Chemical Name:	Bensulide
Use	Celery, pepper, cardoon, dock
Formulation	Herbicide
Application Rate	9 lbs a.i./acre
Half-life	35 days
Application Interval	120 days
Maximum # Apps./Year	2
Length of Simulation	1 year

Acute and Chronic RQs are based on the Upp
Kenaga Residues.

The maximum single day residue estimation is
both the acute and reproduction RQs.

RQs reported as "0.00" in the RQ tables be
<0.01 in your assessment. This is due to r
figure issues in Excel.

Questions?
Comments?
Click here

Endpoints

Avian	Bobwhite quail	LD50 (mg/kg-bw)	1386.00
	Bobwhite quail	LC50 (mg/kg-diet)	5620.00
	Mallard duck	NOAEL(mg/kg-bw)	0.00
	Mallard duck	NOAEC (mg/kg-diet)	2.50
Mammals		LD50 (mg/kg-bw)	270.00
		LC50 (mg/kg-diet)	0.00
		NOAEL (mg/kg-bw)	7.50
		NOAEC (mg/kg-diet)	150.00

Dietary-based EECs (ppm)	Kenaga Values
Short Grass	2360.61
Tall Grass	1081.95
Broadleaf plants/sm Insects	1327.84
Fruits/pods/seeds/lg insects	147.54

Avian Results

Avian Class	Body Weight (g)	Ingestion (F-dry) (g bw/day)	Ingestion (F-wet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Small	20	5	23	114	2.28E-02
Mid	100	13	65	65	6.49E-02
Large	1000	58	291	29	2.91E-01

Avian Body Weight (g)	Adjusted LD50 (mg/kg-bw)
20	998.52
100	1271.16
1000	1795.56

Dose-based EECs (mg/kg-bw)	Avian Classes and Body Weights		
	small 20 g	mid 100 g	large 1000 g
Short Grass	2688.50	1533.10	686.39
Tall Grass	1232.23	702.67	314.59
Broadleaf plants/sm Insects	1512.28	862.37	386.09
Fruits/pods/seeds/lg insects	168.03	95.82	42.90

Dose-based RQs (Dose-based EEC/adjusted LD50)	Avian Acute RQs		
	20 g	100 g	1000 g
Short Grass	2.69	1.21	0.38
Tall Grass	1.23	0.55	0.18
Broadleaf plants/sm Insects	1.51	0.68	0.22
Fruits/pods/seeds/lg insects	0.17	0.08	0.02

Dietary-based RQs (Dietary-based EEC/LC50 or NOAEC)	RQs	
	Acute	Chronic
Short Grass	0.42	944.24
Tall Grass	0.19	432.78
Broadleaf plants/sm Insects	0.24	531.14
Fruits/pods/seeds/lg insects	0.03	59.02

Note: To provide risk management with the maximum possible information, it is recommended that both the dose-based and concentration-based RQs be calculated when data are available

Bensulide | Celery, pepper, cardoon, dock | Upper bound Kenaga Residues

Mammalian Results

Mammalian Class	Body Weight	Ingestion (F-dry) (g bwt/day)	Ingestion (F-wet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Herbivores/ insectivores	15	3	14	95	1.43E-02
	35	5	23	66	2.31E-02
	1000	31	153	15	1.53E-01
Grainvores	15	3	3	21	3.10E-03
	35	5	5	15	5.13E-03
	1000	31	34	3	3.40E-02

Mammalian Class	Body Weight	Adjusted LD50	Adjusted NOAEL
Herbivores/ insectivores	15	593.41	16.48
	35	480.14	13.34
	1000	207.67	5.77
Grainvores	15	593.41	16.48
	35	480.14	13.34
	1000	207.67	5.77

Dose-Based EECs (mg/kg-bw)	Mammalian Classes and Body weight					
	Herbivores/ insectivores			Granivores		
	15 g	35 g	1000 g	15 g	35 g	1000 g
Short Grass	2250.66	1555.51	360.65			
Tall Grass	1031.55	712.94	165.30			
Broadleaf plants/sm Insects	1266.00	874.97	202.87			
Fruits/pods/seeds/lg insects	140.67	97.22	22.54	31.26	21.60	5.01

Dose-based RQs (Dose-based EEC/LD50 or	15 g mammal		35 g mammal		1000 g mammal	
	Acute	Chronic	Acute	Chronic	Acute	Chronic
Short Grass	3.79	136.54	3.24	116.63	1.74	62.52
Tall Grass	1.74	62.58	1.48	53.46	0.80	28.65
Broadleaf plants/sm Insects	2.13	76.80	1.82	65.60	0.98	35.17
Fruits/pods/lg insects	0.24	8.53	0.20	7.29	0.11	3.91
Seeds (granivore)	0.05	1.90	0.04	1.62	0.02	0.87

Dietary-based RQs (Dietary-based EEC/LC50 or NOAEC)	Mammal RQs	
	Acute	Chronic
Short Grass	#DIV/0!	15.74
Tall Grass	#DIV/0!	7.21
Broadleaf plants/sm Insects	#DIV/0!	8.85
Fruits/pods/seeds/lg insects	#DIV/0!	0.98

Upper Bound Kenaga Residues For RQ Calculation

Chemical Name:	Bensulide
Use	celtuce
Formulation	Herbicide
Application Rate	6 lbs a.i./acre
Half life	35 days
Application Interval	120 days
Maximum # Apps./Year	2
Length of Simulation	1 year

Acute and Chronic RQs are based on the Upp Kenaga Residues.

The maximum single day residue estimation is both the acute and reproduction RQs.

RQs reported as "0.00" in the RQ tables be <0.01 in your assessment. This is due to r figure issues in Excel.

Questions? Comments? Click here

Endpoints

Avian	Bobwhite quail	LD50 (mg/kg-bw)	1386.00
	Bobwhite quail	LC50 (mg/kg-diet)	5620.00
	Mallard duck	NOAEL(mg/kg-bw)	0.00
	Mallard duck	NOAEC (mg/kg-diet)	2.50
Mammals		LD50 (mg/kg-bw)	270.00
		LC50 (mg/kg-diet)	0.00
		NOAEL (mg/kg-bw)	7.50
		NOAEC (mg/kg-diet)	150.00

Dietary-based EECs (ppm)	Kenaga Values
Short Grass	1573.74
Tall Grass	721.30
Broadleaf plants/sm Insects	885.23
Fruits/pods/seeds/lg insects	98.36

Avian Results

Avian Class	Body Weight (g)	Ingestion (F-dry) (g bw/day)	Ingestion (F-wet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Small	20	5	23	114	2.28E-02
Mid	100	13	65	65	6.49E-02
Large	1000	58	291	29	2.91E-01

Avian Body Weight (g)	Adjusted LD50 (mg/kg-bw)
20	990.52
100	1271.16
1000	1795.56

Dose-based EECs (mg/kg-bw)	Avian Classes and Body Weights		
	small 20 g	mid 100 g	large 1000 g
Short Grass	1792.33	1022.06	457.59
Tall Grass	821.49	468.45	209.73
Broadleaf plants/sm Insects	1008.19	574.91	257.40
Fruits/pods/seeds/lg insects	112.02	63.88	28.60

Dose-based RQs (Dose-based EEC/adjusted LD50)	Avian Acute RQs		
	20 g	100 g	1000 g
Short Grass	1.79	0.80	0.25
Tall Grass	0.82	0.37	0.12
Broadleaf plants/sm Insects	1.01	0.45	0.14
Fruits/pods/seeds/lg insects	0.11	0.05	0.02

Dietary-based RQs (Dietary-based EEC/LC50 or NOAEC)	RQs	
	Acute	Chronic
Short Grass	0.28	629.50
Tall Grass	0.13	288.52
Broadleaf plants/sm Insects	0.16	354.09
Fruits/pods/seeds/lg insects	0.02	39.34

Note: To provide risk management with the maximum possible information, it is recommended that both the dose-based and concentration-based RQs be calculated when data are available

Bensulide celtuce Upper bound Kenaga Residues

Mammalian Results

Mammalian Class	Body Weight	Ingestion (F-dry) (g bwt/day)	Ingestion (F-wet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Herbivores/ insectivores	15	3	14	95	1.43E-02
	35	5	23	66	2.31E-02
	1000	31	153	15	1.53E-01
Grainvores	15	3	3	21	3.18E-03
	35	5	5	15	5.13E-03
	1000	31	34	3	3.40E-02

Mammalian Class	Body Weight	Adjusted LD50	Adjusted NOAEL
Herbivores/ insectivores	15	593.41	16.48
	35	480.14	13.34
	1000	207.67	5.77
Grainvores	15	593.41	16.48
	35	480.14	13.34
	1000	207.67	5.77

Dose-Based EECs (mg/kg-bw)	Mammalian Classes and Body weight					
	Herbivores/ insectivores			Grainvores		
	15 g	35 g	1000 g	15 g	35 g	1000 g
Short Grass	1500.44	1037.00	240.43			
Tall Grass	687.70	475.29	110.20			
Broadleaf plants/sm Insects	844.00	583.32	135.24			
Fruits/pods/seeds/lg insects	93.78	64.81	15.03	20.84	14.40	3.34

Dose-based RQs (Dose-based EEC/LD50 or	15 g mammal		35 g mammal		1000 g mammal	
	Acute	Chronic	Acute	Chronic	Acute	Chronic
Short Grass	2.53	91.03	2.16	77.75	1.16	41.68
Tall Grass	1.16	41.72	0.99	35.64	0.53	19.10
Broadleaf plants/sm Insects	1.42	51.20	1.21	43.74	0.65	23.44
Fruits/pods/lg insects	0.16	5.69	0.13	4.86	0.07	2.60
Seeds (granivore)	0.04	1.26	0.03	1.08	0.02	0.58

Dietary-based RQs (Dietary-based EEC/LC50 or NOAEC)	Mammal RQs	
	Acute	Chronic
Short Grass	#DIV/0!	10.49
Tall Grass	#DIV/0!	4.81
Broadleaf plants/sm Insects	#DIV/0!	5.90
Fruits/pods/seeds/lg insects	#DIV/0!	0.66

Note: To provide risk management with the maximum possible information, it is recommended that both the dose-based and concentration-based RQs be calculated when data are available

Upper Bound Kenaga Residues For RQ Calculation

Chemical Name:	Bensulide
Use	Turf
Formulation	daikon
Application Rate	9 lbs a.i./acre
Half-life	35 days
Application Interval	120 days
Maximum # Apps./Year	3
Length of Simulation	1 year

Acute and Chronic RQs are based on the Uppe
Kenaga Residues.

The maximum single day residue estimation is
both the acute and reproduction RQs.

**RQs reported as "0.00" in the RQ tables belo
<0.01 in your assessment. This is due to rou
figure issues in Excel.**

Endpoints			
Avian	Bobwhite quail	LD50 (mg/kg-bw)	1386.00
	Bobwhite quail	LC50 (mg/kg-diet)	5620.00
	Mallard duck	NOAEL(mg/kg-bw)	0.00
	Mallard duck	NOAEC (mg/kg-diet)	2.50
Mammals		LD50 (mg/kg-bw)	270.00
		LC50 (mg/kg-diet)	0.00
		NOAEL (mg/kg-bw)	7.50
		NOAEC (mg/kg-diet)	150.00

Dietary-based EECs (ppm)	Kenaga Values
Short Grass	2379.24
Tall Grass	1090.49
Broadleaf plants/sm Insects	1338.32
Fruits/pods/seeds/lg insects	148.70

Avian Results

Avian Class	Body Weight (g)	Ingestion (Fdry) (g bw/day)	Ingestion (Fwet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Small	20	5	23	114	2.28E-02
Mid	100	13	65	65	6.49E-02
Large	1000	58	291	29	2.91E-01

Avian Body Weight (g)	Adjusted LD50 (mg/kg-bw)
20	998.52
100	1271.16
1000	1795.56

Dose-based EECs (mg/kg-bw)	Avian Classes and Body Weights		
	small 20 g	mid 100 g	large 1000 g
Short Grass	2709.72	1545.20	691.80
Tall Grass	1241.95	708.21	317.08
Broadleaf plants/sm Insects	1524.22	869.17	389.14
Fruits/pods/seeds/lg insects	169.36	96.57	43.24

Dose-based RQs (Dose-based EEC/adjusted LD50)	Avian Acute RQs		
	20 g	100 g	1000 g
Short Grass	2.71	1.22	0.39
Tall Grass	1.24	0.56	0.18
Broadleaf plants/sm insects	1.53	0.68	0.22
Fruits/pods/seeds/lg insects	0.17	0.08	0.02

Dietary-based RQs (Dietary-based EEC/LC50 or NOAEC)	RQs	
	Acute	Chronic
Short Grass	0.42	951.70
Tall Grass	0.19	436.19
Broadleaf plants/sm Insects	0.24	535.33
Fruits/pods/seeds/lg insects	0.03	59.48

Note: To provide risk management with the maximum possible information, it is recommended that both the dose-based and concentration-based RQs be calculated when data are available

Bensulide Turf Upper bound Kenaga Residues

Mammalian Results

Mammalian Class	Body Weight	Ingestion (Fdry) (g bwt/day)	Ingestion (Fwet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Herbivores/ insectivores	15	3	14	95	1.43E-02
	35	5	23	66	2.31E-02
	1000	31	153	15	1.53E-01
Grainvores	15	3	3	21	3.18E-03
	35	5	5	15	5.13E-03
	1000	31	34	3	3.40E-02

Mammalian Class	Body Weight	Adjusted LD50	Adjusted NOAEL
Herbivores/ insectivores	15	593.41	16.48
	35	480.14	13.34
	1000	207.67	5.77
Grainvores	15	593.41	16.48
	35	480.14	13.34
	1000	207.67	5.77

Dose-Based EECs (mg/kg-bw)	Mammalian Classes and Body weight					
	Herbivores/ insectivores			Granivores		
	15 g	35 g	1000 g	15 g	35 g	1000 g
Short Grass	2268.42	1567.78	363.50			
Tall Grass	1039.69	718.57	166.60			
Broadleaf plants/sm Insects	1275.99	881.88	204.47			
Fruits/pods/seeds/lg insects	141.78	97.99	22.72	31.51	21.77	5.05

Dose-based RQs (Dose-based EEC/LD50 or NOAEL)	15 g mammal		35 g mammal		1000 g mammal	
	Acute	Chronic	Acute	Chronic	Acute	Chronic
Short Grass	3.82	137.62	3.27	117.55	1.75	63.01
Tall Grass	1.75	63.07	1.50	53.88	0.80	28.88
Broadleaf plants/sm insects	2.15	77.41	1.84	66.12	0.98	35.44
Fruits/pods/lg insects	0.24	8.60	0.20	7.35	0.11	3.94
Seeds (granivore)	0.05	1.91	0.05	1.63	0.02	0.88

Dietary-based RQs (Dietary-based EEC/LC50 or NOAEC)	Mammal RQs	
	Acute	Chronic
Short Grass	#DIV/0!	15.86
Tall Grass	#DIV/0!	7.27
Broadleaf plants/sm insects	#DIV/0!	8.92
Fruits/pods/seeds/lg insects	#DIV/0!	0.99

Upper Bound Kenaga Residues For RQ Calculation

Chemical Name:	Bensulide
Use	Turf
Formulation	Broccoli raab, broccoli, Chinese, chard
Application Rate	6 lbs a.i./acre
Half-life	35 days
Application Interval	365 days
Maximum # Apps./Year	1
Length of Simulation	1 year

Acute and Chronic RQs are based on the Uppe
Kenaga Residues.

The maximum single day residue estimation is
both the acute and reproduction RQs.

**RQs reported as "0.00" in the RQ tables belo
<0.01 in your assessment. This is due to rou
figure issues in Excel.**

Endpoints			
Avian	Bobwhite quail	LD50 (mg/kg-bw)	1386.00
	Bobwhite quail	LC50 (mg/kg-diet)	5620.00
	Mallard duck	NOAEL(mg/kg-bw)	0.00
	Mallard duck	NOAEC (mg/kg-diet)	2.50
Mammals		LD50 (mg/kg-bw)	270.00
		LC50 (mg/kg-diet)	0.00
		NOAEL (mg/kg-bw)	7.50
		NOAEC (mg/kg-diet)	150.00

Dietary-based EECs (ppm)	Kenaga Values
Short Grass	1440.00
Tall Grass	660.00
Broadleaf plants/sm Insects	810.00
Fruits/pods/seeds/lg insects	90.00

Avian Results

Avian Class	Body Weight (g)	Ingestion (Fdry) (g bw/day)	Ingestion (Fwet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Small	20	5	23	114	2.28E-02
Mid	100	13	65	65	6.49E-02
Large	1000	58	291	29	2.91E-01

Avian Body Weight (g)	Adjusted LD50 (mg/kg-bw)
20	998.52
100	1271.16
1000	1795.56

Dose-based EECs (mg/kg-bw)	Avian Classes and Body Weights: small 20 g	mid 100 g	large 1000 g
Short Grass	1640.02	935.21	418.70
Tall Grass	751.67	428.64	191.91
Broadleaf plants/sm Insects	922.51	526.05	235.52
Fruits/pods/seeds/lg insects	102.50	58.45	26.17

Dose-based RQs (Dose-based EEC/adjusted LD50)	Avian Acute RQs: 20 g	100 g	1000 g
Short Grass	1.64	0.74	0.23
Tall Grass	0.75	0.34	0.11
Broadleaf plants/sm insects	0.92	0.41	0.13
Fruits/pods/seeds/lg insects	0.10	0.05	0.01

Dietary-based RQs (Dietary-based EEC/LC50 or NOAEC)	RQs: Acute	Chronic
Short Grass	0.26	576.00
Tall Grass	0.12	264.00
Broadleaf plants/sm Insects	0.14	324.00
Fruits/pods/seeds/lg insects	0.02	36.00

Note: To provide risk management with the maximum possible information, it is recommended that both the dose-based and concentration-based RQs be calculated when data are available

Bensulide Turf Upper bound Kenaga Residues

Mammalian Results

Mammalian Class	Body Weight	Ingestion (Fdry) (g bwt/day)	Ingestion (Fwet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Herbivores/ insectivores	15	3	14	95	1.43E-02
	35	5	23	66	2.31E-02
	1000	31	153	15	1.53E-01
Grainvores	15	3	3	21	3.18E-03
	35	5	5	15	5.13E-03
	1000	31	34	3	3.40E-02

Mammalian Class	Body Weight	Adjusted LD50	Adjusted NOAEL
Herbivores/ insectivores	15	593.41	16.48
	35	480.14	13.34
	1000	207.67	5.77
Grainvores	15	593.41	16.48
	35	480.14	13.34
	1000	207.67	5.77

Dose-Based EECs (mg/kg-bw)	Mammalian Classes and Body weight: Herbivores/ insectivores 15 g	35 g	1000 g	Granivores 15 g	35 g	1000 g
Short Grass	1372.93	948.88	220.00			
Tall Grass	629.26	434.90	100.83			
Broadleaf plants/sm Insects	772.27	533.74	123.75			
Fruits/pods/seeds/lg insects	85.81	59.30	13.75	19.07	13.18	3.06

Dose-based RQs (Dose-based EEC/LD50 or NOAEL)	15 g mammal: Acute	Chronic	35 g mammal: Acute	Chronic	1000 g mammal: Acute	Chronic
Short Grass	2.31	83.29	1.98	71.15	1.06	38.14
Tall Grass	1.06	38.17	0.91	32.61	0.49	17.48
Broadleaf plants/sm insects	1.30	46.85	1.11	40.02	0.60	21.45
Fruits/pods/lg insects	0.14	5.21	0.12	4.45	0.07	2.38
Seeds (granivore)	0.03	1.16	0.03	0.99	0.01	0.53

Dietary-based RQs (Dietary-based EEC/LC50 or NOAEC)	Mammal RQs: Acute	Chronic
Short Grass	#DIV/0!	9.60
Tall Grass	#DIV/0!	4.40
Broadleaf plants/sm insects	#DIV/0!	5.40
Fruits/pods/seeds/lg insects	#DIV/0!	0.60

Upper Bound Kenaga Residues For RQ Calculation

Chemical Name:	Bensulide
Use	Turf
Formulation	celtuce, chervil, , chrysanthemum
Application Rate	6 lbs a.i./acre
Half-life	35 days
Application Interval	120 days
Maximum # Apps./Year	2
Length of Simulation	1 year

Acute and Chronic RQs are based on the Uppe
Kenaga Residues.

The maximum single day residue estimation is
both the acute and reproduction RQs.

**RQs reported as "0.00" in the RQ tables belo
<0.01 in your assessment. This is due to rou
figure issues in Excel.**

Endpoints			
Avian	Bobwhite quail	LD50 (mg/kg-bw)	1386.00
	Bobwhite quail	LC50 (mg/kg-diet)	5620.00
	Mallard duck	NOAEL(mg/kg-bw)	0.00
	Mallard duck	NOAEC (mg/kg-diet)	2.50
Mammals		LD50 (mg/kg-bw)	270.00
		LC50 (mg/kg-diet)	0.00
		NOAEL (mg/kg-bw)	7.50
		NOAEC (mg/kg-diet)	150.00

Dietary-based EECs (ppm)	Kenaga Values
Short Grass	1573.74
Tall Grass	721.30
Broadleaf plants/sm Insects	885.23
Fruits/pods/seeds/lg insects	98.36

Avian Results

Avian Class	Body Weight (g)	Ingestion (Fdry) (g bw/day)	Ingestion (Fwet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Small	20	5	23	114	2.28E-02
Mid	100	13	65	65	6.49E-02
Large	1000	58	291	29	2.91E-01

Avian Body Weight (g)	Adjusted LD50 (mg/kg-bw)
20	998.52
100	1271.16
1000	1795.56

Dose-based EECs (mg/kg-bw)	Avian Classes and Body Weights		
	small 20 g	mid 100 g	large 1000 g
Short Grass	1792.33	1022.06	457.59
Tall Grass	821.49	468.45	209.73
Broadleaf plants/sm Insects	1008.19	574.91	257.40
Fruits/pods/seeds/lg insects	112.02	63.88	28.60

Dose-based RQs (Dose-based EEC/adjusted LD50)	Avian Acute RQs		
	20 g	100 g	1000 g
Short Grass	1.79	0.80	0.25
Tall Grass	0.82	0.37	0.12
Broadleaf plants/sm insects	1.01	0.45	0.14
Fruits/pods/seeds/lg insects	0.11	0.05	0.02

Dietary-based RQs (Dietary-based EEC/LC50 or NOAEC)	RQs	
	Acute	Chronic
Short Grass	0.28	629.50
Tall Grass	0.13	288.52
Broadleaf plants/sm Insects	0.16	354.09
Fruits/pods/seeds/lg insects	0.02	39.34

Note: To provide risk management with the maximum possible information, it is recommended that both the dose-based and concentration-based RQs be calculated when data are available

Bensulide Turf Upper bound Kenaga Residues

Mammalian Results

Mammalian Class	Body Weight	Ingestion (Fdry) (g bwt/day)	Ingestion (Fwet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Herbivores/ insectivores	15	3	14	95	1.43E-02
	35	5	23	66	2.31E-02
	1000	31	153	15	1.53E-01
Grainvores	15	3	3	21	3.18E-03
	35	5	5	15	5.13E-03
	1000	31	34	3	3.40E-02

Mammalian Class	Body Weight	Adjusted LD50	Adjusted NOAEL
Herbivores/ insectivores	15	593.41	16.48
	35	480.14	13.34
	1000	207.67	5.77
Grainvores	15	593.41	16.48
	35	480.14	13.34
	1000	207.67	5.77

Dose-Based EECs (mg/kg-bw)	Mammalian Classes and Body weight					
	Herbivores/ insectivores			Granivores		
	15 g	35 g	1000 g	15 g	35 g	1000 g
Short Grass	1500.44	1037.00	240.43			
Tall Grass	687.70	475.29	110.20			
Broadleaf plants/sm Insects	844.00	583.32	135.24			
Fruits/pods/seeds/lg insects	93.78	64.81	15.03	20.84	14.40	3.34

Dose-based RQs (Dose-based EEC/LD50 or NOAEL)	15 g mammal		35 g mammal		1000 g mammal	
	Acute	Chronic	Acute	Chronic	Acute	Chronic
Short Grass	2.53	91.03	2.16	77.75	1.16	41.68
Tall Grass	1.16	41.72	0.99	35.64	0.53	19.10
Broadleaf plants/sm insects	1.42	51.20	1.21	43.74	0.65	23.44
Fruits/pods/lg insects	0.16	5.69	0.13	4.86	0.07	2.60
Seeds (granivore)	0.04	1.26	0.03	1.08	0.02	0.58

Dietary-based RQs (Dietary-based EEC/LC50 or NOAEC)	Mammal RQs	
	Acute	Chronic
Short Grass	#DIV/0!	10.49
Tall Grass	#DIV/0!	4.81
Broadleaf plants/sm insects	#DIV/0!	5.90
Fruits/pods/seeds/lg insects	#DIV/0!	0.66

Note: To provide risk management with the maximum possible information, it is recommended that both the dose-based and concentration-based RQs be calculated when data are available

Upper Bound Kenaga Residues For RQ Calculation

Chemical Name:	Bensulide
Use	Turf
Formulation	Onion, orach (mountain spinach), shallot
Application Rate	6 lbs a.i./acre
Half-life	35 days
Application Interval	120 days
Maximum # Apps./Year	4
Length of Simulation	1 year

Acute and Chronic RQs are based on the Uppe
Kenaga Residues.

The maximum single day residue estimation is
both the acute and reproduction RQs.

**RQs reported as "0.00" in the RQ tables belo
<0.01 in your assessment. This is due to rou
figure issues in Excel.**

Endpoints			
Avian	Bobwhite quail	LD50 (mg/kg-bw)	1386.00
	Bobwhite quail	LC50 (mg/kg-diet)	5620.00
	Mallard duck	NOAEL(mg/kg-bw)	0.00
	Mallard duck	NOAEC (mg/kg-diet)	2.50
Mammals		LD50 (mg/kg-bw)	270.00
		LC50 (mg/kg-diet)	0.00
		NOAEL (mg/kg-bw)	7.50
		NOAEC (mg/kg-diet)	150.00

Dietary-based EECs (ppm)	Kenaga Values
Short Grass	1587.31
Tall Grass	727.52
Broadleaf plants/sm Insects	892.86
Fruits/pods/seeds/lg insects	99.21

Avian Results

Avian Class	Body Weight (g)	Ingestion (Fdry) (g bw/day)	Ingestion (Fwet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Small	20	5	23	114	2.28E-02
Mid	100	13	65	65	6.49E-02
Large	1000	58	291	29	2.91E-01

Avian Body Weight (g)	Adjusted LD50 (mg/kg-bw)
20	998.52
100	1271.16
1000	1795.56

Dose-based EECs (mg/kg-bw)	Avian Classes and Body Weights		
	small 20 g	mid 100 g	large 1000 g
Short Grass	1807.79	1030.88	461.54
Tall Grass	828.57	472.49	211.54
Broadleaf plants/sm Insects	1016.88	579.87	259.62
Fruits/pods/seeds/lg insects	112.99	64.43	28.85

Dose-based RQs (Dose-based EEC/adjusted LD50)	Avian Acute RQs		
	20 g	100 g	1000 g
Short Grass	1.81	0.81	0.26
Tall Grass	0.83	0.37	0.12
Broadleaf plants/sm insects	1.02	0.46	0.14
Fruits/pods/seeds/lg insects	0.11	0.05	0.02

Dietary-based RQs (Dietary-based EEC/LC50 or NOAEC)	RQs	
	Acute	Chronic
Short Grass	0.28	634.93
Tall Grass	0.13	291.01
Broadleaf plants/sm Insects	0.16	357.15
Fruits/pods/seeds/lg insects	0.02	39.68

Note: To provide risk management with the maximum possible information, it is recommended that both the dose-based and concentration-based RQs be calculated when data are available

Bensulide Turf Upper bound Kenaga Residues

Mammalian Results

Mammalian Class	Body Weight	Ingestion (Fdry) (g bwt/day)	Ingestion (Fwet) (g/day)	% body wgt consumed	FI (kg-diet/day)
	15	3	14	95	1.43E-02
Herbivores/ insectivores	35	5	23	66	2.31E-02
	1000	31	153	15	1.53E-01
	15	3	3	21	3.18E-03
Grainvores	35	5	5	15	5.13E-03
	1000	31	34	3	3.40E-02

Mammalian Class	Body Weight	Adjusted LD50	Adjusted NOAEL
	15	593.41	16.48
Herbivores/ insectivores	35	480.14	13.34
	1000	207.67	5.77
	15	593.41	16.48
Grainvores	35	480.14	13.34
	1000	207.67	5.77

Dose-Based EECs (mg/kg-bw)	Mammalian Classes and Body weight					
	Herbivores/ insectivores			Granivores		
	15 g	35 g	1000 g	15 g	35 g	1000 g
Short Grass	1513.38	1045.95	242.51			
Tall Grass	693.63	479.39	111.15			
Broadleaf plants/sm Insects	851.28	588.35	136.41			
Fruits/pods/seeds/lg insects	94.59	65.37	15.16	21.02	14.53	3.37

Dose-based RQs (Dose-based EEC/LD50 or NOAEL)	15 g mammal		35 g mammal		1000 g mammal	
	Acute	Chronic	Acute	Chronic	Acute	Chronic
Short Grass	2.55	91.81	2.18	78.42	1.17	42.04
Tall Grass	1.17	42.08	1.00	35.94	0.54	19.27
Broadleaf plants/sm insects	1.43	51.64	1.23	44.11	0.66	23.65
Fruits/pods/lg insects	0.16	5.74	0.14	4.90	0.07	2.63
Seeds (granivore)	0.04	1.28	0.03	1.09	0.02	0.58

Dietary-based RQs (Dietary-based EEC/LC50 or NOAEC)	Mammal RQs	
	Acute	Chronic
Short Grass	#DIV/0!	10.58
Tall Grass	#DIV/0!	4.85
Broadleaf plants/sm insects	#DIV/0!	5.95
Fruits/pods/seeds/lg insects	#DIV/0!	0.66

Note: To provide risk management with the maximum possible information, it is recommended that both the dose-based and concentration-based RQs be calculated when data are available

Upper Bound Kenaga Residues For RQ Calculation

Chemical Name:	Bensulide
Use	Turfand Lawn EC
Formulation	Herbicide
Application Rate	13.5 lbs a.i./acre
Half-life	35 days
Application Interval	120 days
Maximum # Apps./Year	2
Length of Simulation	1 year

Acute and Chronic RQs are based on the Upper Bound Kenaga Residues.

The maximum single day residue estimation is used for both the acute and reproduction RQs.

RQs reported as "0.00" in the RQ tables below should be noted a <0.01 in your assessment. This is due to rounding and significa figure issues in Excel.

Endpoints

Avian	Bobwhite quail	LD50 (mg/kg-bw)	1386.00
	Bobwhite quail	LC50 (mg/kg-diet)	0.00
	Bobwhite quail	NOAEL(mg/kg-bw)	0.00
	Mallard duck	NOAEC (mg/kg-diet)	2.50

Dietary-based EECs (ppm)	Kenaga Values
Short Grass	3540.91
Tall Grass	1622.92
Broadleaf plants/sm Insects	1991.76
Fruits/pods/seeds/lg insects	221.31
Small herbivore mammals	2333.26
Small insectivore mammals	145.83
Small terrestrial phase amphibians	69.14

Terrestrial Herpetofauna Results

Weight Class	Body Weight (g)	Ingestion (Fdry) (g bw/day)	Ingestion (Fwet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Small	1.4	0.017	0.1	3.9	5.44E-05
Mid	37	0.212	1.4	3.8	1.41E-03
Large	100	0.457	3.0	3.0	3.05E-03

Body Weight (g)	Adjusted LD50 (mg/kg-bw)
1.4	1386.00
37	1386.00
100	1386.00

Dose-based EECs (mg/kg-bw)	Herpetofaunal Size Classes and Body Weights		
	small (g)	mid (g)	large (g)
	1.4	37	100
Short Grass	137.57	135.20	107.89
Tall Grass	63.05	61.97	49.45
Broadleaf plants/sm Insects	77.38	76.05	60.69
Fruits/pods/seeds/lg insects	8.60	8.45	6.74
Small herbivore mammals	N/A	2207.14	816.64
Small insectivore mammals	N/A	137.95	51.04
Small terrestrial phase amphibian	N/A	2.64	2.11

Upper Bound Kenaga Residues For RQ Calculation

Chemical Name:	Bensulide
Use	broc, raab
Formulation	Herbicide
Application Rate	6 lbs a.i./acre
Half-life	35 days
Application Interval	365 days
Maximum # Apps./Year	1
Length of Simulation	1 year

Acute and Chronic RQs are based on the Upper Bound Kenaga Residues.

The maximum single day residue estimation is used for both the acute and reproduction RQs.

RQs reported as "0.00" in the RQ tables below should be noted a <0.01 in your assessment. This is due to rounding and significa figure issues in Excel.

Endpoints

Avian	Bobwhite quail	LD50 (mg/kg-bw)	1386.00
	Bobwhite quail	LC50 (mg/kg-diet)	0.00
	Bobwhite quail	NOAEL(mg/kg-bw)	0.00
	Mallard duck	NOAEC (mg/kg-diet)	2.50

Dietary-based EECs (ppm)	Kenaga Values
Short Grass	1440.00
Tall Grass	660.00
Broadleaf plants/sm Insects	810.00
Fruits/pods/seeds/lg insects	90.00
Small herbivore mammals	948.88
Small insectivore mammals	59.30
Small terrestrial phase amphibians	28.12

Terrestrial Herpetofauna Results

Weight Class	Body Weight (g)	Ingestion (Fdry) (g bw/day)	Ingestion (Fwet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Small	1.4	0.017	0.1	3.9	5.44E-05
Mid	37	0.212	1.4	3.8	1.41E-03
Large	100	0.457	3.0	3.0	3.05E-03

Body Weight (g)	Adjusted LD50 (mg/kg-bw)
1.4	1386.00
37	1386.00
100	1386.00

Dose-based EECs (mg/kg-bw)	Herpetofaunal Size Classes and Body Weights		
	small (g)	mid (g)	large (g)
	1.4	37	100
Short Grass	55.95	54.98	43.87
Tall Grass	25.64	25.20	20.11
Broadleaf plants/sm Insects	31.47	30.93	24.68
Fruits/pods/seeds/lg insects	3.50	3.44	2.74
Small herbivore mammals	N/A	897.59	332.11
Small insectivore mammals	N/A	56.10	20.76
Small terrestrial phase amphibian	N/A	1.07	0.86

Upper Bound Kenaga Residues For RQ Calculation

Chemical Name:	Bensulide
Use	celery
Formulation	Herbicide
Application Rate	9 lbs a.i./acre
Half-life	35 days
Application Interval	120 days
Maximum # Apps./Year	2
Length of Simulation	1 year

Acute and Chronic RQs are based on the Upper Bound Kenaga Residues.

The maximum single day residue estimation is used for both the acute and reproduction RQs.

RQs reported as "0.00" in the RQ tables below should be noted a <0.01 in your assessment. This is due to rounding and significa figure issues in Excel.

Endpoints

Avian	Bobwhite quail	LD50 (mg/kg-bw)	1386.00
	Bobwhite quail	LC50 (mg/kg-diet)	0.00
	Bobwhite quail	NOAEL(mg/kg-bw)	0.00
	Mallard duck	NOAEC (mg/kg-diet)	2.50

Dietary-based EECs (ppm)	Kenaga Values
Short Grass	2360.61
Tall Grass	1081.95
Broadleaf plants/sm Insects	1327.84
Fruits/pods/seeds/lg insects	147.54
Small herbivore mammals	1555.51
Small insectivore mammals	97.22
Small terrestrial phase amphibians	46.09

Terrestrial Herpetofauna Results

Weight Class	Body Weight (g)	Ingestion (Fdry) (g bw/day)	Ingestion (Fwet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Small	1.4	0.017	0.1	3.9	5.44E-05
Mid	37	0.212	1.4	3.8	1.41E-03
Large	100	0.457	3.0	3.0	3.05E-03

Body Weight (g)	Adjusted LD50 (mg/kg-bw)
1.4	1386.00
37	1386.00
100	1386.00

Dose-based EECs (mg/kg-bw)	Herpetofaunal Size Classes and Body Weights		
	small (g)	mid (g)	large (g)
	1.4	37	100
Short Grass	91.71	90.14	71.92
Tall Grass	42.04	41.31	32.97
Broadleaf plants/sm Insects	51.59	50.70	40.46
Fruits/pods/seeds/lg insects	5.73	5.63	4.50
Small herbivore mammals	N/A	1471.43	544.43
Small insectivore mammals	N/A	91.96	34.03
Small terrestrial phase amphibian	N/A	1.76	1.40

Upper Bound Kenaga Residues For RQ Calculation

Chemical Name:	Bensulide
Use	etc., Brocolli etc.; Lettuce etc.; Melon etc.; T
Formulation	Herbicide
Application Rate	9 lbs a.i./acre
Half-life	35 days
Application Interval	365 days
Maximum # Apps./Year	1
Length of Simulation	1 year

Acute and Chronic RQs are based on the Upper Bound Kenaga Residues.

The maximum single day residue estimation is used for both the acute and reproduction RQs.

RQs reported as "0.00" in the RQ tables below should be noted a <0.01 in your assessment. This is due to rounding and significa figure issues in Excel.

Endpoints

Avian	Bobwhite quail	LD50 (mg/kg-bw)	1386.00
	Bobwhite quail	LC50 (mg/kg-diet)	5620.00
	Bobwhite quail	NOAEL(mg/kg-bw)	0.00
	Mallard duck	NOAEC (mg/kg-diet)	2.50

Dietary-based EECs (ppm)	Kenaga Values
Short Grass	2160.00
Tall Grass	990.00
Broadleaf plants/sm Insects	1215.00
Fruits/pods/seeds/lg insects	135.00
Small herbivore mammals	1423.32
Small insectivore mammals	88.96
Small terrestrial phase amphibians	42.17

Terrestrial Herpetofauna Results

Weight Class	Body Weight (g)	Ingestion (Fdry) (g bw/day)	Ingestion (Fwet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Small	1.4	0.017	0.1	3.9	5.44E-05
Mid	37	0.212	1.4	3.8	1.41E-03
Large	100	0.457	3.0	3.0	3.05E-03

Body Weight (g)	Adjusted LD50 (mg/kg-bw)
1.4	1386.00
37	1386.00
100	1386.00

Dose-based EECs (mg/kg-bw)	Herpetofaunal Size Classes and Body Weights		
	small (g)	mid (g)	large (g)
	1.4	37	100
Short Grass	83.92	82.48	65.81
Tall Grass	38.46	37.80	30.16
Broadleaf plants/sm Insects	47.20	46.39	37.02
Fruits/pods/seeds/lg insects	5.24	5.15	4.11
Small herbivore mammals	N/A	1346.38	498.16
Small insectivore mammals	N/A	84.15	31.14
Small terrestrial phase amphibian	N/A	1.61	1.28

Upper Bound Kenaga Residues For RQ Calculation

Chemical Name:	Bensulide
Use	Garlic
Formulation	Herbicide
Application Rate	6 lbs a.i./acre
Half-life	35 days
Application Interval	365 days
Maximum # Apps./Year	1
Length of Simulation	1 year

Acute and Chronic RQs are based on the Upper Bound Kenaga Residues.

The maximum single day residue estimation is used for both the acute and reproduction RQs.

RQs reported as "0.00" in the RQ tables below should be noted a <0.01 in your assessment. This is due to rounding and significa figure issues in Excel.

Endpoints

Avian	Bobwhite quail	LD50 (mg/kg-bw)	1386.00
	Bobwhite quail	LC50 (mg/kg-diet)	5620.00
	Bobwhite quail	NOAEL(mg/kg-bw)	0.00
	Mallard duck	NOAEC (mg/kg-diet)	2.50

Dietary-based EECs (ppm)	Kenaga Values
Short Grass	1440.00
Tall Grass	660.00
Broadleaf plants/sm Insects	810.00
Fruits/pods/seeds/lg insects	90.00
Small herbivore mammals	948.88
Small insectivore mammals	59.30
Small terrestrial phase amphibians	28.12

Terrestrial Herpetofauna Results

Weight Class	Body Weight (g)	Ingestion (Fdry) (g bw/day)	Ingestion (Fwet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Small	1.4	0.017	0.1	3.9	5.44E-05
Mid	37	0.212	1.4	3.8	1.41E-03
Large	100	0.457	3.0	3.0	3.05E-03

Body Weight (g)	Adjusted LD50 (mg/kg-bw)
1.4	1386.00
37	1386.00
100	1386.00

Dose-based EECs (mg/kg-bw)	Herpetofaunal Size Classes and Body Weights		
	small (g)	mid (g)	large (g)
	1.4	37	100
Short Grass	55.95	54.98	43.87
Tall Grass	25.64	25.20	20.11
Broadleaf plants/sm Insects	31.47	30.93	24.68
Fruits/pods/seeds/lg insects	3.50	3.44	2.74
Small herbivore mammals	N/A	897.59	332.11
Small insectivore mammals	N/A	56.10	20.76
Small terrestrial phase amphibian	N/A	1.07	0.86

Upper Bound Kenaga Residues For RQ Calculation

Chemical Name:	Bensulide
Use	onion
Formulation	Herbicide
Application Rate	6 lbs a.i./acre
Half-life	35 days
Application Interval	120 days
Maximum # Apps./Year	1
Length of Simulation	1 year

Acute and Chronic RQs are based on the Upper Bound Kenaga Residues.

The maximum single day residue estimation is used for both the acute and reproduction RQs.

RQs reported as "0.00" in the RQ tables below should be noted a <0.01 in your assessment. This is due to rounding and significa figure issues in Excel.

Endpoints

Avian	Bobwhite quail	LD50 (mg/kg-bw)	1386.00
	Bobwhite quail	LC50 (mg/kg-diet)	0.00
	Bobwhite quail	NOAEL(mg/kg-bw)	0.00
	Mallard duck	NOAEC (mg/kg-diet)	2.50

Dietary-based EECs (ppm)	Kenaga Values
Short Grass	1440.00
Tall Grass	660.00
Broadleaf plants/sm Insects	810.00
Fruits/pods/seeds/lg insects	90.00
Small herbivore mammals	948.88
Small insectivore mammals	59.30
Small terrestrial phase amphibians	28.12

Terrestrial Herpetofauna Results

Weight Class	Body Weight (g)	Ingestion (Fdry) (g bw/day)	Ingestion (Fwet) (g/day)	% body wgt consumed	FI (kg-diet/day)
Small	1.4	0.017	0.1	3.9	5.44E-05
Mid	37	0.212	1.4	3.8	1.41E-03
Large	100	0.457	3.0	3.0	3.05E-03

Body Weight (g)	Adjusted LD50 (mg/kg-bw)
1.4	1386.00
37	1386.00
100	1386.00

Dose-based EECs (mg/kg-bw)	Herpetofaunal Size Classes and Body Weights		
	small (g)	mid (g)	large (g)
	1.4	37	100
Short Grass	55.95	54.98	43.87
Tall Grass	25.64	25.20	20.11
Broadleaf plants/sm Insects	31.47	30.93	24.68
Fruits/pods/seeds/lg insects	3.50	3.44	2.74
Small herbivore mammals	N/A	897.59	332.11
Small insectivore mammals	N/A	56.10	20.76
Small terrestrial phase amphibian	N/A	1.07	0.86