

## Appendix E – Detailed Terrestrial Risk Quotients (T-REX)

The following tables summarize the avian and mammalian acute and chronic RQs associated with the use of azinphos methyl on a variety of agricultural crops. For each of these tables, the following coding system is used emphasize LOC exceedences:

- \*\*\* RQ exceeds acute risk (0.5), acute restricted use (0.2), AND the acute endangered species (0.1) LOCs
- \*\* RQ exceeds acute restricted use (0.2) AND the acute endangered species (0.1) LOCs
- \* RQ exceeds acute endangered species (0.1) LOC
- + exceeds the chronic LOC (1)

### APPLES

#### Apples: Maximum Avian RQs

| Food Items                     | ACUTE RQs  |          |         | CHRONIC RQs   |                    |
|--------------------------------|------------|----------|---------|---------------|--------------------|
|                                | Dose-based |          |         | Dietary-based | Dietary-based      |
|                                | 20 g       | 100 g    | 1000 g  |               |                    |
| Short Grass                    | 35.89***   | 16.07*** | 5.08*** | 1.46***       | 67.92 <sup>+</sup> |
| Tall Grass                     | 16.45***   | 7.37***  | 2.33*** | 0.67***       | 31.13 <sup>+</sup> |
| Broadleaf plants/Small insects | 20.19***   | 9.04***  | 2.86*** | 0.82***       | 38.21 <sup>+</sup> |
| Fruits/pods/Large insects      | 2.24***    | 1.00***  | 0.32**  | 0.09          | 4.25 <sup>+</sup>  |

#### Apples: Maximum Mammalian Dose-based RQs

| Food Items                     | 15 g mammal |                      | 35 g mammal |                      | 1000 g mammal |                     |
|--------------------------------|-------------|----------------------|-------------|----------------------|---------------|---------------------|
|                                | Acute       | Chronic              | Acute       | Chronic              | Acute         | Chronic             |
| Short Grass                    | 39.52***    | 1233.04 <sup>+</sup> | 33.93***    | 1058.75 <sup>+</sup> | 17.83***      | 556.32 <sup>+</sup> |
| Tall Grass                     | 18.11***    | 565.14 <sup>+</sup>  | 15.55***    | 485.26 <sup>+</sup>  | 8.17***       | 254.98 <sup>+</sup> |
| Broadleaf plants/Small insects | 22.23***    | 693.59 <sup>+</sup>  | 19.09***    | 595.55 <sup>+</sup>  | 10.03***      | 312.93 <sup>+</sup> |
| Fruits/pods/Large insects      | 2.47***     | 77.07 <sup>+</sup>   | 2.12***     | 66.17 <sup>+</sup>   | 1.11***       | 34.77 <sup>+</sup>  |
| Seeds                          | 0.55***     | 17.04 <sup>+</sup>   | 0.48**      | 15.04 <sup>+</sup>   | 0.22**        | 6.95 <sup>+</sup>   |

#### Apples: Maximum Mammalian Dietary-based RQs

| Food Items                      | Acute   | Chronic             |
|---------------------------------|---------|---------------------|
| Short Grass                     | 1.76*** | 142.63 <sup>+</sup> |
| Tall Grass                      | 0.81*** | 65.37 <sup>+</sup>  |
| Broadleaf plants/Small insects  | 0.99*** | 80.23 <sup>+</sup>  |
| Fruits/pods/seeds/Large insects | 0.11**  | 8.91 <sup>+</sup>   |

## BRUSSELS SPROUTS

### Brussels Sprouts: Maximum Avian RQs

| Food Items                     | ACUTE RQs  |         |         | CHRONIC RQs   |                    |
|--------------------------------|------------|---------|---------|---------------|--------------------|
|                                | Dose-based |         |         | Dietary-based | Dietary-based      |
|                                | 20 g       | 100 g   | 1000 g  |               |                    |
| Short Grass                    | 9.06***    | 4.06*** | 1.28*** | 0.37**        | 17.14 <sup>+</sup> |
| Tall Grass                     | 4.15***    | 1.86*** | 0.59*** | 0.17*         | 7.86 <sup>+</sup>  |
| Broadleaf plants/Small insects | 5.10***    | 2.28*** | 0.72*** | 0.21**        | 9.64 <sup>+</sup>  |
| Fruits/pods/Large insects      | 0.57***    | 0.25**  | 0.08    | 0.02          | 1.07 <sup>+</sup>  |

### Brussels Sprouts: Maximum Mammalian Dose-based RQs

| Food Items                     | 15 g mammal |                     | 35 g mammal |                     | 1000 g mammal |                     |
|--------------------------------|-------------|---------------------|-------------|---------------------|---------------|---------------------|
|                                | Acute       | Chronic             | Acute       | Chronic             | Acute         | Chronic             |
| Short Grass                    | 9.97***     | 311.22 <sup>+</sup> | 8.56***     | 267.22 <sup>+</sup> | 4.50***       | 140.41 <sup>+</sup> |
| Tall Grass                     | 4.57***     | 142.64 <sup>+</sup> | 3.93***     | 122.48 <sup>+</sup> | 2.06***       | 64.36 <sup>+</sup>  |
| Broadleaf plants/Small insects | 5.61***     | 175.06 <sup>+</sup> | 4.82***     | 150.31 <sup>+</sup> | 2.53***       | 78.98 <sup>+</sup>  |
| Fruits/pods/Large insects      | 0.62***     | 19.45 <sup>+</sup>  | 0.54***     | 16.70 <sup>+</sup>  | 0.28**        | 8.78 <sup>+</sup>   |
| Seeds                          | 0.14*       | 4.30 <sup>+</sup>   | 0.12*       | 3.80 <sup>+</sup>   | 0.06          | 1.76 <sup>+</sup>   |

### Brussels Sprouts: Maximum Mammalian Dietary-based RQs

| Food Items                      | Acute  | Chronic            |
|---------------------------------|--------|--------------------|
| Short Grass                     | 0.44** | 36.00 <sup>+</sup> |
| Tall Grass                      | 0.20** | 16.50 <sup>+</sup> |
| Broadleaf plants/Small insects  | 0.25** | 20.25 <sup>+</sup> |
| Fruits/pods/seeds/Large insects | 0.03   | 2.25 <sup>+</sup>  |

## CHERRIES

### **Cherries: Maximum Avian RQs**

| Food Items                     | ACUTE RQs  |         |         | CHRONIC RQs   |                    |
|--------------------------------|------------|---------|---------|---------------|--------------------|
|                                | Dose-based |         |         | Dietary-based | Dietary-based      |
|                                | 20 g       | 100 g   | 1000 g  |               |                    |
| Short Grass                    | 12.42***   | 5.56*** | 1.76*** | 0.51***       | 23.51 <sup>+</sup> |
| Tall Grass                     | 5.69***    | 2.55*** | 0.81*** | 0.23**        | 10.78 <sup>+</sup> |
| Broadleaf plants/Small insects | 6.99***    | 3.13*** | 0.99*** | 0.28**        | 13.23 <sup>+</sup> |
| Fruits/pods/Large insects      | 0.78***    | 0.35**  | 0.11*   | 0.03          | 1.47 <sup>+</sup>  |

### **Cherries: Maximum Mammalian Dose-based RQs**

| Food Items                     | 15 g mammal |                     | 35 g mammal |                     | 1000 g mammal |                     |
|--------------------------------|-------------|---------------------|-------------|---------------------|---------------|---------------------|
|                                | Acute       | Chronic             | Acute       | Chronic             | Acute         | Chronic             |
| Short Grass                    | 13.68***    | 426.83 <sup>+</sup> | 11.75***    | 366.50 <sup>+</sup> | 6.17***       | 192.58 <sup>+</sup> |
| Tall Grass                     | 6.27***     | 195.63 <sup>+</sup> | 5.38***     | 167.98 <sup>+</sup> | 2.83***       | 88.26 <sup>+</sup>  |
| Broadleaf plants/Small insects | 7.70***     | 240.09 <sup>+</sup> | 6.61***     | 206.16 <sup>+</sup> | 3.47***       | 108.32 <sup>+</sup> |
| Fruits/pods/Large insects      | 0.86***     | 26.68 <sup>+</sup>  | 0.73***     | 22.91 <sup>+</sup>  | 0.39**        | 12.04 <sup>+</sup>  |
| Seeds                          | 0.19*       | 5.90 <sup>+</sup>   | 0.17*       | 5.21 <sup>+</sup>   | 0.08          | 2.41 <sup>+</sup>   |

### **Cherries: Maximum Mammalian Dietary-based RQs**

| Food Items                      | Acute   | Chronic            |
|---------------------------------|---------|--------------------|
| Short Grass                     | 0.61*** | 49.37 <sup>+</sup> |
| Tall Grass                      | 0.28**  | 22.63 <sup>+</sup> |
| Broadleaf plants/Small insects  | 0.34**  | 27.77 <sup>+</sup> |
| Fruits/pods/seeds/Large insects | 0.04    | 3.09 <sup>+</sup>  |

## NURSERY STOCK

### Nursery Stock: Maximum Avian RQs

| Food Items                     | ACUTE RQs  |          |         | CHRONIC RQs   |                    |
|--------------------------------|------------|----------|---------|---------------|--------------------|
|                                | Dose-based |          |         | Dietary-based | Dietary-based      |
|                                | 20 g       | 100 g    | 1000 g  |               |                    |
| Short Grass                    | 22.41***   | 10.04*** | 3.17*** | 0.91***       | 42.42 <sup>+</sup> |
| Tall Grass                     | 10.27***   | 4.60***  | 1.45*** | 0.42**        | 19.44 <sup>+</sup> |
| Broadleaf plants/Small insects | 12.61***   | 5.65***  | 1.78*** | 0.51***       | 23.86 <sup>+</sup> |
| Fruits/pods/Large insects      | 1.40***    | 0.63***  | 0.20**  | 0.06          | 2.65 <sup>+</sup>  |

### Nursery Stock: Maximum Mammalian Dose-based RQs

| Food Items                     | 15 g mammal |                     | 35 g mammal |                     | 1000 g mammal |                     |
|--------------------------------|-------------|---------------------|-------------|---------------------|---------------|---------------------|
|                                | Acute       | Chronic             | Acute       | Chronic             | Acute         | Chronic             |
| Short Grass                    | 24.68***    | 770.08 <sup>+</sup> | 21.19***    | 661.22 <sup>+</sup> | 11.14***      | 347.44 <sup>+</sup> |
| Tall Grass                     | 11.31***    | 352.95 <sup>+</sup> | 9.71***     | 303.06 <sup>+</sup> | 5.10***       | 159.24 <sup>+</sup> |
| Broadleaf plants/Small insects | 13.88***    | 433.17 <sup>+</sup> | 11.92***    | 371.94 <sup>+</sup> | 6.26***       | 195.43 <sup>+</sup> |
| Fruits/pods/Large insects      | 1.54***     | 48.13 <sup>+</sup>  | 1.32***     | 41.33 <sup>+</sup>  | 0.70***       | 21.71 <sup>+</sup>  |
| Seeds                          | 0.34**      | 10.64 <sup>+</sup>  | 0.30**      | 9.39 <sup>+</sup>   | 0.14*         | 4.34 <sup>+</sup>   |

### Nursery Stock: Maximum Mammalian Dietary-based RQs

| Food Items                      | Acute   | Chronic            |
|---------------------------------|---------|--------------------|
| Short Grass                     | 1.10*** | 89.08 <sup>+</sup> |
| Tall Grass                      | 0.50*** | 40.83 <sup>+</sup> |
| Broadleaf plants/Small insects  | 0.62*** | 50.11 <sup>+</sup> |
| Fruits/pods/seeds/Large insects | 0.07    | 5.57 <sup>+</sup>  |

## NUTS (Almonds, Pistachios, Walnuts)

### **Nuts: Maximum Avian RQs**

| Food Items                     | ACUTE RQs  |          |         | CHRONIC RQs   |                    |
|--------------------------------|------------|----------|---------|---------------|--------------------|
|                                | Dose-based |          |         | Dietary-based | Dietary-based      |
|                                | 20 g       | 100 g    | 1000 g  |               |                    |
| Short Grass                    | 24.15***   | 10.82*** | 3.42*** | 0.98***       | 45.71 <sup>+</sup> |
| Tall Grass                     | 11.07***   | 4.96***  | 1.57*** | 0.45**        | 20.95 <sup>+</sup> |
| Broadleaf plants/Small insects | 13.59***   | 6.09***  | 1.92*** | 0.55***       | 25.71 <sup>+</sup> |
| Fruits/pods/Large insects      | 1.51***    | 0.68***  | 0.21**  | 0.06          | 2.86 <sup>+</sup>  |

### **Nuts: Maximum Mammalian Dose-based RQs**

| Food Items                     | 15 g mammal |                     | 35 g mammal |                     | 1000 g mammal |                     |
|--------------------------------|-------------|---------------------|-------------|---------------------|---------------|---------------------|
|                                | Acute       | Chronic             | Acute       | Chronic             | Acute         | Chronic             |
| Short Grass                    | 26.60***    | 829.91 <sup>+</sup> | 22.84***    | 712.60 <sup>+</sup> | 12.00***      | 374.43 <sup>+</sup> |
| Tall Grass                     | 12.19***    | 380.38 <sup>+</sup> | 10.47***    | 326.61 <sup>+</sup> | 5.50***       | 171.62 <sup>+</sup> |
| Broadleaf plants/Small insects | 14.96***    | 466.82 <sup>+</sup> | 12.85***    | 400.84 <sup>+</sup> | 6.75***       | 210.62 <sup>+</sup> |
| Fruits/pods/Large insects      | 1.66***     | 51.87 <sup>+</sup>  | 1.43***     | 44.54 <sup>+</sup>  | 0.75***       | 23.40 <sup>+</sup>  |
| Seeds                          | 0.37**      | 11.47 <sup>+</sup>  | 0.32***     | 10.12 <sup>+</sup>  | 0.15*         | 4.68 <sup>+</sup>   |

### **Nuts: Maximum Mammalian Dietary-based RQs**

| Food Items                      | Acute   | Chronic            |
|---------------------------------|---------|--------------------|
| Short Grass                     | 1.18*** | 96.00 <sup>+</sup> |
| Tall Grass                      | 0.54*** | 44.00 <sup>+</sup> |
| Broadleaf plants/Small insects  | 0.67*** | 54.00 <sup>+</sup> |
| Fruits/pods/seeds/Large insects | 0.07    | 6.00 <sup>+</sup>  |

## PEARS

### Pears: Maximum Avian RQs

| Food Items                     | ACUTE RQs  |          |         | CHRONIC RQs   |                    |
|--------------------------------|------------|----------|---------|---------------|--------------------|
|                                | Dose-based |          |         | Dietary-based | Dietary-based      |
|                                | 20 g       | 100 g    | 1000 g  |               |                    |
| Short Grass                    | 29.16***   | 13.06*** | 4.12*** | 1.19***       | 55.18 <sup>+</sup> |
| Tall Grass                     | 13.36***   | 5.99***  | 1.89*** | 0.54***       | 25.29 <sup>+</sup> |
| Broadleaf plants/Small insects | 16.40***   | 7.35***  | 2.32*** | 0.67***       | 31.04 <sup>+</sup> |
| Fruits/pods/Large insects      | 1.82***    | 0.82***  | 0.26**  | 0.07          | 3.45 <sup>+</sup>  |

### Pears: Maximum Mammalian Dose-based RQs

| Food Items                     | 15 g mammal |                      | 35 g mammal |                     | 1000 g mammal |                     |
|--------------------------------|-------------|----------------------|-------------|---------------------|---------------|---------------------|
|                                | Acute       | Chronic              | Acute       | Chronic             | Acute         | Chronic             |
| Short Grass                    | 32.11***    | 1001.81 <sup>+</sup> | 27.57***    | 860.20 <sup>+</sup> | 14.49***      | 451.99 <sup>+</sup> |
| Tall Grass                     | 14.72***    | 459.16 <sup>+</sup>  | 12.64***    | 394.26 <sup>+</sup> | 6.64***       | 207.16 <sup>+</sup> |
| Broadleaf plants/Small insects | 18.06***    | 563.52 <sup>+</sup>  | 15.51***    | 483.86 <sup>+</sup> | 8.15***       | 254.24 <sup>+</sup> |
| Fruits/pods/Large insects      | 2.01***     | 62.61 <sup>+</sup>   | 1.72***     | 53.76 <sup>+</sup>  | 0.91***       | 28.25 <sup>+</sup>  |
| Seeds                          | 0.44**      | 13.84 <sup>+</sup>   | 0.39**      | 12.22 <sup>+</sup>  | 0.18*         | 5.65 <sup>+</sup>   |

### Pears: Maximum Mammalian Dietary-based RQs

| Food Items                      | Acute   | Chronic             |
|---------------------------------|---------|---------------------|
| Short Grass                     | 1.43*** | 115.88 <sup>+</sup> |
| Tall Grass                      | 0.65*** | 53.11 <sup>+</sup>  |
| Broadleaf plants/Small insects  | 0.80*** | 65.19 <sup>+</sup>  |
| Fruits/pods/seeds/Large insects | 0.09    | 7.24 <sup>+</sup>   |