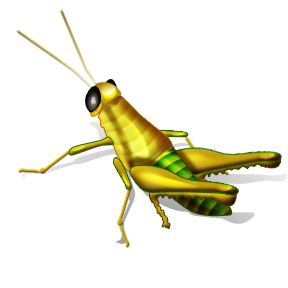
**Entomophagy**

1. Define Entomophagy:

* Insect Eating

1. List 10 insects that are safe to eat?

* Scorpions (china)
* Mopane Caterpillars (Botswana)
* Silkworm pupae (china)
* Stink Bugs (Indonesia)
* Dragonflies (Indonesia)
* Mealworms (Mexico)
* Tarantulas (Cambodia)
* Termites (Uganda)
* Palm Grubs (Peru)
* dryopoid beetles (South America) used as spice

1. What countries eat bugs?

* See above

1. List the name of three recipes for different insects?

* Meal worm spaghetti
* Grasshopper tacos
* Cricket Pad Thai
* Mealworm Canapes

1. Who should not eat insects? (hint allergies)

* Although many insects are edible, entomophagy poses some risks. If you are allergic to shrimp, shellfish, dust, or chocolate, never eat an insect. Even the non-allergic, unless in a survival situation, should never eat a raw insect.

1. What is the nutritional value of insects?

* Protein

|  |  |  |  |  |  |
| --- | --- | --- | --- | --- | --- |
| **Insect** | **Protein (g)** | **Fat (g)** | **Carbohydrate** | **Calcium (mg)** | **Iron (mg)** |
| Giant Water Beetle | 19.8 | 8.3 | 2.1 | 43.5 | 13.6 |
| Red Ant | 13.9 | 3.5 | 2.9 | 47.8 | 5.7 |
| Silk Worm Pupae | 9.6 | 5.6 | 2.3 | 41.7 | 1.8 |
| Dung Beetle | 17.2 | 4.3 | .2 | 30.9 | 7.7 |
| Cricket | 12.9 | 5.5 | 5.1 | 75.8 | 9.5 |
| Grasshopper | 20.6 | 6.1 | 3.9 | 35.2 | 5.0 |
| Grasshopper | 14.3 | 3.3 | 2.2 | 27.5 | 3.0 |
| June Beetle | 13.4 | 1.4 | 2.9 | 22.6 | 6.0 |
| Caterpillar | 28.2 | N/A | N/A | N/A | 35.5 |
| Caterpillar | 9.7 | N/A | N/A | N/A | 1.9 |
| Termite | 14.2 | N/A | N/A | N/A | 35.5 |
| Weevil | 6.7 | N/A | N/A | N/A | 13.1 |
| Beef (Lean Ground) | 27.4 | N/A | N/A | N/A | 3.5 |
| Fish (Broiled Cod) | 28.5 | N/A | N/A | N/A | 1.0 |

Data collected from *The Food Insects Newsletter*, July 1996 (Vol. 9, No. 2, ed. by [Florence V. Dunkel](mailto:ueyfd@msu.oscs.montana.edu), Montana State University) and *Bugs In the System*, by [May Berenbaum](http://www.life.uiuc.edu/entomology/faculty/berenbaum.html)

1. What are the FDA rules regarding bugs in our food?

**Product Action Level**

Apple butter 5 insects per 100g

Berries 4 larvae per 500g OR 10 whole insects per 500g

Ground paprika 75 insect fragments per 25g

Chocolate 80 microscopic insect fragments per 100g

Canned sweet corn 2 3mm-length larvae, cast skins or fragments

Cornmeal 1 insect per 50g

Canned mushrooms 20 maggots per 100g

Peanut butter 60 fragments per 100g (136 per lb)

Tomato paste, pizza, and other sauces 30 eggs per 100g OR 2 maggots per 100g

Wheat flour 75 insect fragments per 50g

Source: The Food Defect Action Levels: Current Levels for Natural or Unavoidable Defects for Human Use that Present No Health Hazard. Department of Health & Human Services 1989.

1. What are some things to take in consideration before trying to eat insects or cook with them?

* If the insect is edible
* How it was raised (wild/farm raised)
* Clean insects before eating
* Insects must be cooked
* Cool insects down in the refrigerator or freezer before cooking