



Issue	Food Safety of Edible Flowers
<b>Background</b>	<p>Edible flowers are popular ingredients used in many dishes as they add unique flavor, texture, and visual appeal. They have been part of the human diet since old times. Reports indicate that Roman, Chinese, Middle Eastern, and Indian cultures used edible flowers as ingredients in their dishes (Newman &amp; O'Connor, 2013).</p> <p>Presently, edible flowers are regaining popularity. While edible flowers are still a niche market, there is an increasing interest in this product due to their potential as a source of nutrients and several bioactive compounds. As such, flowers are now used in salads, cakes, and pastries (Patel &amp; Naik, 2010).</p> <p>In this technical bulletin, the Bureau of Agriculture and Fisheries Standards (BAFS) discusses edible flowers as an alternative food source, explains the food safety concerns regarding its consumption, and presents the recommended practices to avoid potential food hazards.</p>
<b>General Description</b>	<p><b>Common species and uses of edible flowers in the Philippines</b></p> <p>Filipinos typically consume edible flowers, such as <i>bulaklak ng kalabasa</i> or squash flower (<i>Cucurbita</i> spp.), <i>kasubha</i> or the local version of saffron (<i>Carthamus tinctorius</i>) <i>katuray</i> (<i>Sesbania grandiflora</i>), and <i>kakawate</i> flower (<i>Gliricidia sepium</i>), as an ingredient to their dishes (Virgilio, n.d.). Aside from these local edible flowers, cultivated cut flowers such as roses (<i>Rosa</i> spp.), sunflowers (<i>Helianthus annuus</i>), and chrysanthemums (<i>Chrysanthemum indicum</i>), can also be consumed. Annex 1 shows some of the wild or cultivated flowers consumed by Filipinos (Polinag, 2003; Stuartxchange, n.d.).</p> <p><b>Nutritive and phytochemical content of edible flowers</b></p> <p>Edible and non-toxic flowers are harmless and contain healthy compounds useful in the human diet. Aside from being used to add color, fragrance, and flavor, various edible flowers have been studied for their nutritional value and phytochemical composition.</p> <p>Edible flowers are composed of 70 to 95% water and the remaining is composed of other nutrients and phytochemicals. For instance, pollen is a source of proteins, carbohydrates, and saturated and unsaturated lipids, while nectar is made up of free sugars, proteins, organic acids, lipids, amino acids, lipids, etc. Petals and other flower parts are richer in vitamins, minerals, and antioxidants (Mlcek &amp; Rop, 2011; Fernandes <i>et al.</i>, 2017).</p> <p>Edible flowers also contain a wide variety of bioactive compounds, such as phenolic compounds, alkaloids, betalains, carotenoids, flavonols, flavones, and terpenoids (Fakhri <i>et al.</i>, 2022). These compounds are</p>

	<p>responsible for the antioxidant properties, i.e., capable of eliminating free radicals present in humans once ingested (Pires <i>et al.</i>, 2021). Other health benefits of edible flowers due to their phytochemical activity include anti-inflammatory, hypotensive, anti-aging, neuroprotective, anti-obesity, and antidiabetic effects (Fakhri <i>et al.</i>, 2022; Tena <i>et al.</i>, 2020). Some edible flowers were also reported to have antimicrobial properties due to the presence of inhibitory substances for certain microorganisms (Fakhri <i>et al.</i>, 2022; Fernandes <i>et al.</i>, 2017).</p>
<p><b>For Food Safety: Hazard Presence in Food</b></p> <p><b>For Quality: Quality Issues in Food</b></p>	<p>While edible flowers are generally safe to consume, there are some hazards associated with its consumption that should be considered. These flowers may be contaminated chemically due to herbicides, pesticides, or other toxic substances, or microbiologically due to pathogenic bacteria.</p> <p><b>Microbiological contamination</b></p> <ul style="list-style-type: none"> <li>• Reported cases of microbial contamination from the European Union Rapid Alert System for Food and Feed (EU RASFF) are mostly associated with different serotypes of <i>Salmonella</i> bacteria, e.g. <i>Salmonella</i> Stanley and <i>Salmonella</i> Mbandaka contamination in fresh edible flowers such as Margosa flower from Thailand (Matyjaszczyk &amp; Śmiechowska, 2019).</li> <li>• Microbial contamination of edible flowers can occur at any point from growing to processing stages but it is more likely to occur after harvesting (Matyjaszczyk &amp; Śmiechowska, 2019). During the growing stage, plants may be contaminated by the soil, fertilizers made from untreated manure, or irrigation water (Fornefeld, 2017).</li> </ul> <p><b>Chemical contamination</b></p> <ul style="list-style-type: none"> <li>• Recently, a banned insecticide, lufenuron, and unauthorized substances, chlorpyrifos, and imidacloprid, were found in rose blossoms from Pakistan (RASFF Window, 2022). Such external hazardous compounds may come from chemical residues as a result of pesticide spraying.</li> </ul> <p>As edible flowers may come from plants that are grown for ornamental purposes, chemical contamination is very likely. Ornamental plants are usually applied with synthetic fertilizers and pesticides to ensure their visual quality (Matyjaszczyk &amp; Śmiechowska, 2019).</p> <ul style="list-style-type: none"> <li>• Misidentification of flowers, whether they are edible or not, also poses a risk of poisoning in humans. The difference between “edible” and “non-edible” depends on their alkaloid content. Edible flowers contain alkaloids that have pharmacologic properties while non-edible flowers contain alkaloids that have psychotropic, stimulant, and toxic effects (Nicolau &amp; Gostin, 2016).</li> <li>• In the case of wild edible flowers, especially those that are not from agricultural areas, chemical impurities from soil and air may</li> </ul>

be absorbed. High concentrations of heavy metals, such as cadmium (Cd), may be present in soil and may be uptaken by plants. While impurities from the air usually come from automotive or industrial emissions (Matyjaszczyk & Śmiechowska, 2019). Table 1 shows the summary of studies regarding the uptake of heavy metals by some edible flower species.

**Table 1.** Heavy metals found on some edible flower species

Edible flower species	Heavy metals reported	References
Local version of saffron ( <i>Carthamus tinctorius</i> )	Al, Ca, Co, Cr, Fe, Mg, Mn, Mo, Ni, P, Se, Sr, V and Zn	Jia <i>et al.</i> , 2011
<i>Sesbania grandiflora</i>	Mn, Cu, Pb	Mouhamad <i>et al.</i> , 2020
<i>Clitoria ternatea</i>	Cd, As, Pb, Ni	Neda <i>et al.</i> , 2013
<i>Hibiscus rosa-sinensis</i>	Cd, Zn, Pb	Bhaduri <i>et al.</i> , 2015
<i>Chrysanthemum indicum</i>	Pb, Cd	Zhang <i>et al.</i> , 2018

- Pollens that are present in a flower's stamen and pistil are allergens that may trigger an allergic reaction. There are nontoxic, edible flowers such as daisies that can cause severe allergies in people suffering from asthma (Nicolau & Gostin, 2016; Guiné *et al.*, 2017).

Currently, no international organization, *e.g.* Food and Agriculture Organization of the United Nations (FAO), World Health Organization (WHO), United States - Food and Drug Administration (FDA), or European Food Safety Authority (EFSA), has issued an official list of edible flowers or established the recommended amounts for the daily intake of edible flowers (Fornfeld *et al.*, 2017; Nicolau & Gostin, 2016).

In terms of pesticide residues, the EU has set the maximum residue levels (MRL) for select active ingredients (*e.g.* Cyantraniliprole) under the “*herbs and edible flowers*” group (Regulation 476/2022). For heavy metals, the EU has also set maximum levels for Cd and lead (Pb) in foodstuffs. This is based on the assumption that the chemical composition of edible flowers is not too different from other plant foods such as leafy vegetables, which have maximum levels of 0.10 and 0.30 mg/kg wet weight for Cd and Pb, respectively (Regulation 1323/2021; Regulation 1317/2021).

#### Adverse Health Effect in Human

Edible flowers can have some adverse effects on humans. Some people may experience an allergic reaction to certain types of flowers. Allergies can manifest from mild symptoms such as skin irritation and rhinitis to more severe symptoms such as diarrhea, difficulty breathing, and swelling of the lips, mouth, and throat (Lucarini *et al.*, 2020).

Additionally, some edible flowers may contain toxins or other substances that can cause negative health effects. The ingestion of such

toxins can give symptoms such as nausea, vomiting, and diarrhea. In some cases, DNA damage may also be experienced that may lead to certain health implications (Lucarini *et al.*, 2020).

### **Mitigating Measures**

To ensure that the edible flowers to be consumed are safe, the following practices are recommended from production up to consumption (Newman & O'Connor, 2013; Lauderdale & Bradley, 2020; Kelley 2002); BAFS, 2015).

#### Production

1. Identify flower seeds and plants correctly. Purchase these from trusted sources.
2. If possible, conduct a soil analysis to test for the pH and fertility where the flowers are to be grown.
3. Use media, fertilizers, and soil amendments that are recommended for vegetable production.
4. Avoid using chemical pesticides to control pests.
5. Practice alternative pest management strategies such as manual removal of pests, cutting off of damaged/infested plant material, and use of beneficial insects.

#### Harvest

1. Harvest from your own garden or from other gardens that do not use any chemicals.
2. Clean harvesting tools, and containers every after use to prevent cross-contamination.

#### Storage and Preservation

1. Store flowers in a refrigerator after harvesting. Use them as soon as possible.
2. If dirt or insects are present, remove them gently with a small, clean paintbrush. Flowers can also be dipped in room-temperature water to dislodge debris. Place flowers on a paper towel to dry.
3. Prolong the shelf life of flowers by drying, crystallization (candied), preservation in vinegar/alcohol/oil/butter/honey, and cold preservation.

#### Preparation before consumption

1. Remove the stamens and pistils of edible flowers except for those that can be eaten whole such as squash blossoms, nasturtium, and viola.
2. Remove any visible sepal (plant part just under the flower petals that looks like a group of small green leaves) or other green portions of the flowers.
3. Wash each flower gently and thoroughly with cold water before consuming or adding as ingredients.

#### Consumption

1. If the consumer has known allergies, introduce edible flowers gradually, as they may aggravate some allergies.

2. Introduce flowers into the diet in small quantities one species at a time. Consuming large amounts may cause digestive problems.

### Researchers/ Editors

#### Researchers:

Dr. Alpha M. Lanuza, Senior Science Research Specialist  
Jan Vincent DR. Tecson, Science Research Specialist II  
Angela Genove, Science Research Specialist I

#### Editors:

Karen Kristine A. Roscom, PhD, Director IV  
Mary Grace R. Mandigma, Assistant Director-Designate

### References

- Bhaduri, A.M., & Fulekar, M. (2015). Biochemical and RAPD analysis of *Hibiscus rosa sinensis* induced by heavy metals.  
[https://www.researchgate.net/publication/275281647\\_Biochemical\\_and\\_RAPD\\_Analysis\\_of\\_Hibiscus\\_rosa\\_sinensis\\_Induced\\_by\\_Heavy\\_Metals](https://www.researchgate.net/publication/275281647_Biochemical_and_RAPD_Analysis_of_Hibiscus_rosa_sinensis_Induced_by_Heavy_Metals)
- Bureau of Agriculture and Fisheries Standards (BAFS)-Department of Agriculture (DA). (2015). Code of Hygienic Practice (COHP) for natural ingredients (PNS/BAFS 156:2015).
- Fakhri, S., Tomas, M., Capanoglu, E., Hussain, Y., Abbaszadeh, F., Lu, B., Hu, X., Wu, J., Zou, L., Smeriglio, A., Simal-Gandara, J., Cao, H., Xiao, J., & Khan, H. (2022). Antioxidant and anticancer potentials of edible flowers: Where do we stand? *Critical reviews in food science and nutrition*, 62(31), 8589–8645.  
<https://pubmed.ncbi.nlm.nih.gov/34096420/>
- Fernandes, L., Casal, S., Pereira, J. A., Saraiva, J. A. & Ramalhosa, E. (2017). Edible flowers: A review of the nutritional, antioxidant, antimicrobial properties and effects on human health. *Journal of Food Composition and Analysis*, 60(1), 38–50.  
[https://www.researchgate.net/publication/316042214\\_Edible\\_flow\\_ers\\_A\\_review\\_of\\_the\\_nutritional\\_antioxidant\\_antimicrobial\\_properti\\_es\\_and\\_effects\\_on\\_human\\_health](https://www.researchgate.net/publication/316042214_Edible_flow_ers_A_review_of_the_nutritional_antioxidant_antimicrobial_properti_es_and_effects_on_human_health)
- Fornefeld, E., Schierstaedt, J., Jechalke, S., Grosch, R., Smalla, K., & Schikora, A. (2017). Interaction between *Salmonella* and plants: Potential hosts and vectors for human infection. *Current Topics in Salmonella and Salmonellosis*.  
<https://www.intechopen.com/chapters/53688>
- Guiné, R.P.F., Santos, E., & Correia, P.M.R. (2017). Edible flowers: Knowledge and consumption habits. *International Journal of Nutrition and Health Sciences*, 1(3), 18-22.  
[https://www.researchgate.net/publication/318860985\\_EDIBLE\\_FLOWERS\\_KNOWLEDGE\\_AND\\_CONSUMPTION\\_HABITS](https://www.researchgate.net/publication/318860985_EDIBLE_FLOWERS_KNOWLEDGE_AND_CONSUMPTION_HABITS)
- Jakubczyk, K., Janda, K., Watychowicz, K., Lukasiak, J., & Wolska, J. (2018) Garden nasturtium (*Tropaeolum majus* L.) - A source of

mineral elements and bioactive compounds, 69(2):119-126.  
<https://pubmed.ncbi.nlm.nih.gov/29766690/>

Jia, L.H., Li,Y., & Li, Y.Z. (2011). Determination of wholesome elements and heavy metals in safflower (*Carthamus tinctorius* L.) from Xinjiang and Henan by ICP-MS/ICP-AES. *Journal of Pharmaceutical Analysis* 1 (2), 100-103.  
<https://www.sciencedirect.com/science/article/pii/S209517791170017X>

Kelley, K. M. (2002). A consumer's guide to purchasing, producing, storing, and using edible flowers. Penn State College of Agricultural Sciences. <https://extension.psu.edu/a-consumers-guide-to-edible-flowers>

Lauderdale, C., & Bradley, L. (2020). Choosing and Using Edible Flowers. North Carolina State Extension.  
[https://content.ces.ncsu.edu/static/publication/js/pdf\\_js/web/viewer.html?slug=choosing-and-using-edible-flowers-ag-790](https://content.ces.ncsu.edu/static/publication/js/pdf_js/web/viewer.html?slug=choosing-and-using-edible-flowers-ag-790)

Lucarini, M., Copetta, A., Durazzon, A., Gabrielli, P., Lombardi-Boccia, G., Lupotto, E., Santini, A., & Ruffoni, B. (2020). A Snapshot on Food Allergies: A Case Study on Edible Flowers. *Sustainability*, 12(20), 8709.

Magdalita,P., & San Pascual, A. (2022). Hibiscus (*Hibiscus rosa-sinensis*): Importance and Classification. *Floriculture and Ornamental Plants* (pp.483-522).  
[https://www.researchgate.net/publication/361784592\\_Hibiscus\\_Hibiscus\\_rosa-sinensis\\_Importance\\_and\\_Classification](https://www.researchgate.net/publication/361784592_Hibiscus_Hibiscus_rosa-sinensis_Importance_and_Classification)

Matyjaszczyk, E., & Śmiechowska, M. (2019). Edible flowers: Benefits and risks pertaining to their consumption. *Trends in Food Science and Technology*, 91, 670-674.

Mlcek, J., & Rop, O. (2011). Fresh edible flowers of ornamental plants – A new source of nutraceutical foods – A review. *Trends in Food Science & Technology*, 22(10), 561-569.

Mouhamad, R., Ibrahim, K., & Al-Daoude, A. (2020). Heavy metal phytoremediation potential of CYP4502E1 expressing *A. thaliana* and *S. grandiflora* plants.  
[https://life.dysona.org/article\\_107067.html](https://life.dysona.org/article_107067.html)

Neda, G.D., Rabeta, M.S., & Ong, M.T. (2013). Chemical composition and anti-proliferative properties of flowers of *Clitoria Ternatea*. *International Food Research Journal* 20(3): 1229-1234.

Newman, S. E., & O'Connor, A. S. (2013). Edible Flowers - Fact Sheet 7.237. Colorado State University Extension.  
<https://extension.colostate.edu/docs/pubs/garden/07237.pdf>

- Nicolau, A.I., & Gostin, A.I. (2016). Safety of Edible Flowers. In V. Prakash, O. Martin-Belloso, L. Keener, S. Astley, S. Braun, H. McMahon, and H. Lelieveld (Eds.), *Safety of Traditional and Ethnic Foods*, 395-419.
- Patel, M., & Naik, S. (2010). Flowers of *Madhuca indica* J. F. Gmel.: Present status and future perspectives. *Indian Journal of Natural Products and Resources*, 5, 438-443.
- Pires, E.d.O., Jr., Di Gioia, F., Roupheal, Y., Ferreira, I.C.F.R., Caleja, C., Barros, L., & Petropoulos, S.A. (2021). The Compositional Aspects of Edible Flowers as an Emerging Horticultural Product. *Molecules*, 26, 6940.
- Polinag, M.A. (2003). *Food from the Wilderness*.  
[https://erdb.denr.gov.ph/wp-content/uploads/2015/06/denr\\_v12.pdf](https://erdb.denr.gov.ph/wp-content/uploads/2015/06/denr_v12.pdf)
- RASFF Window. (05 December 2022). Notification 2022.5652 Lufenuron and unauthorised substances chlorpyrifos and imidacloprid in rose blossoms and unauthorised substances chlorpyrifos in rose petals from Pakistan.  
<https://webgate.ec.europa.eu/rasff-window/screen/notification/572269>
- Regulation 476/2022. Regulation (EU) No 476/2022 of the European Parliament and of the Council of 22 March 2022 on amending Annexes II, III and IV to Regulation (EC) No 396/2005 as regards maximum residue levels for acetic acid, azoxystrobin, benzovindiflupyr, cyantraniliprole, cyflufenamid, emamectin, flutolanil, lime sulphur, maltodextrin and proquinazid in or on certain products. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32022R0476>
- Regulation 1317/2021. Regulation (EU) No 1317/2021 of the European Parliament and of the Council of 9 August 2021 on amending Regulation (EC) No 1881/2006 as regards maximum levels of lead in certain foodstuffs. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R1317>
- Regulation 1323/2021. Regulation (EU) No 1323/2021 of the European Parliament and of the Council of 10 August 2021 on amending Regulation (EC) No 1881/2006 as regards maximum levels of cadmium in certain foodstuffs. <https://eur-lex.europa.eu/legal-content/EN/TXT/PDF/?uri=CELEX:32021R1323>
- Stuartxchange. (n.d.). Lists of Philippine Herbal Medicinal Plants.  
<http://stuartxchange.org/Completerlist>
- Tena, N., Martín, J., & Asuero, A.G. (2020). State of the art of anthocyanins: Antioxidant activity, sources, bioavailability, and therapeutic effect in human health. *Antioxidants*, 9, 451.

Virgino, C. (n.d.). Edible Flowers: The Food and The Good. The Filipino Doctor. <https://thefilipinodoctor.com/article/edible-flowers-the-food-and-the-good>

Zhang, Y. J., Wang, T., Gou, Q.S., Zao, M.L., Han, Z., & Wei, M. (2018). Comparative study on content of heavy metals in Chrysanthemum indicum and soil in different areas. <https://pubmed.ncbi.nlm.nih.gov/30111049/>

### **Annex 1**

List of edible flowers consumed in the Philippines

Common name	Scientific Name	Image	Description and uses
Birch flower/ Himbabao/ Alukon	<i>Allaeanthus luzonicus</i>		<ul style="list-style-type: none"> <li>• Distributed in the Philippines, from northern Luzon to Basilan. It is commonly found in thickets and second-growth forests at low and medium altitudes and also in the dipterocarp forest of Mt. Makiling, Laguna.</li> <li>• The flowers are blanched and made into a good salad.</li> </ul>
Butterfly Pea/ Blue ternate/ Pukingan/ Pukinggang-baging	<i>Clitoria ternatea</i>		<ul style="list-style-type: none"> <li>• Found throughout the Philippines in thickets and in the settled areas at low and medium altitudes. It was an introduced species and is now pantropic in distribution.</li> <li>• The flowers are used to tinge boiled rice cerulean.</li> </ul>
Cosmos	<i>Cosmos sulphureus</i>		<ul style="list-style-type: none"> <li>• Flowers are edible, with a mango flavor, adding splashes of color to salads or fruit dishes.</li> <li>• Studies have suggested antioxidant, antimalarial, antibacterial, hepatoprotective, anthelmintic, repellent, phytoremediative properties.</li> </ul>
Hibiscus/ Gumamela	<i>Hibiscus rosa-sinensis</i>		<ul style="list-style-type: none"> <li>• Known as the "queen" of gardens in the Philippines and is recognized as the national flower in Malaysia and Hawaii.</li> <li>• Has diverse uses in feed, food, industry, and medicine. It is employed as a natural dye, added to salads, processed into jams, and utilized in various other applications.</li> <li>• Traditional practices involve using extracts from the plant to address concerns like hair loss and dandruff.</li> </ul>
Jadevine/ Tayabak	<i>Strongylodon macrobotrys</i>		<ul style="list-style-type: none"> <li>• The flower contains an anthocyanin (malvin) and a flavone (saponarin) in an approximate 1:9 molar ratio (malvin:saponarin).</li> </ul>

Kakawate	<i>Gliricidia sepium</i>		<ul style="list-style-type: none"> <li>The tree is common in the southern Tagalog areas, shedding leaves around December and flowering February and March.</li> <li>Studies have suggested antimicrobial, anti-scabies, nematocidal, insecticidal, antiviral, acaricidal properties.</li> </ul>
Kasubha/ Safflower	<i>Carthamus tinctorius</i>		<ul style="list-style-type: none"> <li>Safflower is one of the oldest cultivated crops, its use dating back to ancient Egypt.</li> <li>Flowers considered tonic and emmenagogue.</li> </ul>
Katuray/ Vegetable hummingbird	<i>Sesbania grandiflora</i>		<ul style="list-style-type: none"> <li>The largest number of species are found in Africa, and the remainder in Australia, Hawaii, and Asia.</li> <li>Flowers are emollient and laxative.</li> </ul>
Manzanilla/ Chrysanthemum	<i>Chrysanthemum indicum</i>		Used in Chinese traditional medicine for more than 2000 years. Considered antifungal, antiviral, anti-inflammatory, analgesic, antipyretic, bactericidal, febrifuge, vulnerary, depurative and tonic.
Marigold/ Ahito	<i>Tagetes erecta</i>		<ul style="list-style-type: none"> <li>The most commonly cultivated varieties of <i>Tagetes</i> are known variously as Mexican marigolds or African marigolds (usually referring to cultivars and hybrids of <i>Tagetes erecta</i>).</li> <li>Petals of some varieties are edible; used in salads and for flavor and color.</li> </ul>
Nasturtium	<i>Tropaeolum majus</i>		<ul style="list-style-type: none"> <li>It is a plant with several therapeutic benefits due to its trace elements and bioactive chemicals.</li> <li>Its blooms and other components are an excellent source of macro and micro elements, including zinc, copper, and iron, as well as micro elements like potassium, phosphorus, calcium, and magnesium.</li> </ul>

			<ul style="list-style-type: none"> <li>In addition to having antibacterial, antifungal, hypotensive, expectorant, and anticancer properties, the essential oil, extract from the flowers and leaves, and chemicals derived from these substances also have these properties.</li> </ul>
Roses/ Rosas	<i>Rosa</i> spp.		<ul style="list-style-type: none"> <li>Widely distributed plant in America, Africa, and Asia.</li> <li>Considered antidepressant, antiscorbutic, antispasmodic, aphrodisiac, aromatic, astringent, cordial, depurative, emmenagogue, laxative, nervine, sedative, stomachic, uterine tonic.</li> <li>Rose petals are used in salads, garnishes, pastry decorations, and making rose water.</li> </ul>
Squash flower/ Bulaklak ng kalabasa	<i>Cucurbita</i> spp.		Smaller new leaves are used as salad ingredients, while stems are chopped and boiled with other vegetables.
Sunflower/ Mirasol	<i>Helianthus annuus</i>		<ul style="list-style-type: none"> <li>Introduced to the Philippines during the Spanish times.</li> <li>It is a source for seeds, oils which are used for skin emollients and cooking purposes.</li> </ul>
Sweet violet/ Violeta	<i>Viola odorata</i>		Considered anti-inflammatory, anticancer, demulcent, diuretic, emetic, expectorant, purgative. Flowers considered diuretic, expectorant, purgative.
Wild sunflower	<i>Tithonia diversifolia</i>		<ul style="list-style-type: none"> <li>This is common along roadsides at higher elevations.</li> <li>The seeds may be eaten roasted like peanuts. These can be processed into good cooking oil. The disk of the flower head can be eaten, too.</li> </ul>

(Source: Virgilio, n.d.; Polinag, 2003; Stuartxchange, n.d.)