General Botany · BIOL-220 · Spring 2019

The plant of the day

In order to earn up to 100 points with this activity you will need to pair up with a classmate, choose a plant *that you find interesting*, do some research and deliver a short, 5-minute presentation in class, followed by some questions or discussion. This is required for all students enrolled in BIOL220.

The purpose of having these presentations during class is to find some space for reflection on the (overlooked) impact of plants in our lives and how interesting they can be. Consequently, for a successful presentation you will need to apply the botanical knowledge you are gaining in the classes, but also to highlight facts or connections that are surprising, exciting, generally unknown, or that have attracted your attention in some way during the research.

You will find below a tentative list of species that you may use, sorted by a number of fields, but you can choose based on the criterion you prefer. This list will be growing during the course as well, so check the online version. Feel free to discuss with me your choice (or a different suggestion that you may have), ask for advice during the preparation, etc.

Since these will be mini-presentations of just a few minutes, obviously you can't expect to be comprehensive: choose one or two particular aspects or links that you would like to share with the class: what is the effect of the plant on the human body? How was it collected in its native range? How important is it in the economy of X country? Pick something engaging, unexpected or interesting to focus your presentation, and make sure you don't speak for too long.

You need to sign up on the spreadsheet to indicate your plant and preferred date (first come, first served). There will be one presentation per class starting, ideally, on week 2. Those pioneers bold enough to sign up for the first slots will receive some extra points (the maximum will still be 100).

Some other guidelines:

- Although conventional formats are expected (ppt or pdf, 5-7 slides should be more than enough), feel free to use videos, to present it on the board or whatever you find convenient. Send me the required files no later than the day before at 6pm.
- Use the right botanical vocabulary, adequate use of scientific names, etc
- Make sure you stablish the connections or links to attract others' attention. This is also an exercise of science communication: delivering excitement or interest to people out of the field is always a challenge
- Cite your references properly and use reliable sources
- Be ready to answer some questions or spend some extra minutes discussing what you have learnt and the reactions of the class
- You should attempt to make these presentations the highlight of the class. Find surprising facts, interesting videos, find relevant topics of discussions, etc. Presentations without an active attempt to be engaging will not receive the maximum grade.
- Be professional when looking for sources. At least one of the cited references should be a research or review paper, and ideally more than that. References based exclusively on secondary sources, random websites with not verifiable information, etc will be considered poor for a college-level presentation.

The list

Field of interest	Common name	Scientific name	Notes
The basics	Coffee	*Coffea arabica*	Coffee. Enough said.
	Cacao	*Theobroma cacao*	Imagine a world without chocolate
	Tea	*Camelia sinensis*	Also interesting from the perspective of Asian studies
	Barley	*Hordeum vulgare*	Beer!
	Grape vine	*Vitis vinifera*	Wine!
	Sugar maple	*Acer saccharum*	What is the function of the "syrup"in the tree?
	Cinnamon	*Cinnamomum sp.*	How much are the collectors paid compared to the market price?
Awesome plants	Giant sequoia	*Sequoiadendron giganteum*	The largest tree on earth
	Coastal redwood	*Sequoia sempervirens*	The tallest tree
	Raflessia	*Rafflesia arnoldii*	The largest flower
	Giant arum	*Amorphophallus titanum*	A stinky and huge inflorescence
	Venus flytrap	*Dionaea muscipula*	The most famous carnivorous plant
	Sensitive plant	*Mimosa pudica*	How can a plant react so quickly without a nervous system?
	Gympie gympie	*Dendrocnide moroides*	A plant you don't want to touch
Pre-med	Cinchona tree	*Cinchona officinalis*	First source of quinine. This plant was the Holy Grail for travelers
	Foxglove	*Digitalis purpurea*	Interesting effects on cardiac muscle
	Marijuana	*Cannabis sativa*	Also interesting from social and legal perspectives
	Coca	*Erythroxylum coca*	Source of cocaine but also relevant from an ethnobotanical perspective
	Yew	*Taxus spp.*	Source of taxol, a drug used to treat some kinds of cancer
	Mandrake	*Mandragora officinarum*	Not exclusively for Harry Potter's fans
	Aloe	*Aloe vera*	Why do you find it everywhere?
	Peyote cactus	*Lophophora williamsii*	Where and why is it legal?
	Devil's snare	*Datura stramonium*	Linked to witchcraft
	Tobacco	*Nicotiana spp.*	Different perspectives, including public health
Environ. studies	Peat moss	*Sphagnum sp.*	Major carbon sink. Also related to whisky aging
	Giant reed	*Arundo donax*	Invasive, used for biofuel and carbon sequestration too
	Garlic mustard	*Alliaria petiolata*	Invasive in our area

Pre-vet	Catnip	*Nepeta cataria*	Tell us about your cat's experience with it
History	Pepper	*Piper nigrum*	People went nuts in the Middle Ages for this plant. Why?
	Olive tree	*Olea europaea*	This was the sacred tree in ancient Athens, for good reasons
	Potato	*Solanum tuberosum*	How was it related to Irish immigration into the US?
	Opium	*Papaver somniferum*	Widely used as painkiller during the Civil War
Native Americans	Bottle Gentian	*Gentiana andrewsii*	
	Pear thorn	*Crataegus tomentosa*	
	Wild ginger	*Asarum canadense*	Just three examples of plants used as medicines by the Sauk people
Native flora of IL	Big bluestem	*Andropogon gerardi*	One of the species of the tallgrass prairies
	Grasspink	*Calopogon tuberosus*	A beautiful native orchid with an interesting pollination system
	Pitcher plant	*Sarracenia purpurea*	A very cool insectivorous plant with interesting symbioses
	Milkweeds	*Asclepias spp.*	Explore the relation with the monarch butterflies
Asian studies	Durian	*Durio zibethinus*	The only plant expressly prohibited in Singapore's mass transit
	Ginkgo	*Ginkgo biloba*	One of the few living organisms surviving a nuclear bomb
African studies	Teff	*Eragrostis tef*	Main source of calories in Ethiopia
	Rooibos	*Aspalathus linearis*	Very popular tea in South Africa, and caffeine-free!
Material science	Cork oak	*Quercus suber*	Example of sustainable forest exploitations
	Ebony tree	*Diospyros ebenum*	One of the sources of ebony. Threatened by illegal trade.
Latin American st.	Rubber tree	*Hevea brasiliensis*	What is the histological origin of latex? How is it extracted in the wild?
	Teosinte	*Zea spp.*	Precursor of corn

Rubric

	Excellent: 20 pts	Good: 15 pts	Fair: 10 pts	Poor: 5 pts	Lacking: 0 pts
Format	The presentation was delivered on time, was about 5 minutes long, clear, exposed smoothly, followed the guidelines of extension and format	A single minor aspect of the presentation did not follow the guidelines precisely: delay at the delivery, extension or something was unclear	The presentation diverged from the guidelines in different points. Improvised exposition, too much time, too many slides, etc	Significant divergence with the guidelines in terms of time, delivery, clarity and extension	The presentation did not follow the format guidelines. The students failed to present their plant on their scheduled date.
Botanical information	The presentation uses proficiently and abundantly adequate botanical term without spelling mistakes. Links are done to course content	Minor errors in botanical terms (e.g. spelling mistakes), otherwise used correctly and linked to the course's content	Significant conceptual error in the botanical terminology OR insufficient use of botanical terminology or links with the content of the course	The presentation systematically used incorrectly botanical terms and it was unrelated with the content of the course	Botanical terms were absent or completely incorrect
Connections beyond botany	Engaging, creative presentation that successfully and accurately linked the botanical content with other aspects of science, society, etc and made them accessible to the audience	The presentation used interesting and accurate links beyond botany OR minor error in an otherwise excellent presentation	The connections with other fields were scarce or had some sort of inaccuracy or error	Insufficient effort to stablish links to other fields OR they had conceptual errors	Connections beyond botany lacking
Sources *(Rules of academic misconduct from the syllabus also apply here)*	All the sources used in the presentation (Including images) are reliable, appropriate and correctly cited. Several research papers are cited and actually used.	Minor error citing the sources (e.g. inconsistent format) or some item lacking. Minor lack of reliability.	Several sources are lacking or the format is incorrect. Absence of a critical reliable and appropriate source. Abundance of "random website" sources.	Systematic errors citing the sources. Major problem with the research.	No sources cited
Discussion *(No time limit)*	The students promoted a discussion. They could answer (reasonable) questions and discuss further aspects of the presentation with proficiency	The students could answer questions and discuss the presentation without any major issue	Some difficulties answering questions during the discussion	The students were unprepared to answer reasonable questions or discuss their presentation	No discussion OR the students did not allow any question