

Deadly flowers could help create new medicines

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The world of plants is full of natural medicinal wonders, but some species of flowers can be deadly. Killers have used these for centuries to poison people. However, botanists at Michigan State University and the Czech Academy of

Sciences have discovered that two particularly poisonous plants could have properties that may be used to make new medicines. The scientists conducted research on two flowers: wolfsbane and larkspur. Ingestion of small amounts of wolfsbane could cause death from respiratory paralysis or heart failure. The toxic larkspur can cause skeletal muscle weakness. Researchers say "biohacking" of the plants' chemical makeup could create valuable therapeutics.

The researchers recreated the toxic compounds from the two plants. Study co-author Dr Garret Miller said: "We know they interact with our bodies in so many ways, and understanding how to create them can help provide totally new routes for testing." They could be used as a painkiller, to treat malaria and cancer, and to kill pests. Researcher and biochemistry professor Bjorn Hamberger said: "Plants are the best chemists around, upgrading their arsenal of natural compounds over millions of years to help them survive." Another researcher, Lana Mutabdzija, said: "Many of the medicines we use today either come directly from plants or are inspired by plant chemistry."

Sources: phys.org / earth.com / bioengineer.org

Writing

We should only use medicines from natural sources. Discuss.

Chat

Talk about these words from the article.

plants / medicinal wonders / poison / botanists / medicines / paralysis / biohacking / researchers / painkiller / malaria / cancer / pests / professor / survive / chemistry

True / False

- 1) The article says all plants are used for medicinal purposes. T / F
- 2) Killers have poisoned people with plants for hundreds or years. T / F
- 3) Botanists looked at the plants wolfsbane and larkspur. T / F
- 4) Researchers say plant biohacking could create precious medicines. T / F
- 5) Researchers recreated toxic compounds from two plants. T / F
- 6) The two plants could lead to painkilling medicine. T / F
- 7) A researcher said chemists should grow plants. T / F
- 8) A researcher said today's medicines are inspired by plants. T / F

Synonym Match

(The words in **bold** are from the news article.)

- | | |
|----------------------|----------------|
| 1. wonders | a. heal |
| 2. deadly | b. carried out |
| 3. properties | c. ways |
| 4. conducted | d. qualities |
| 5. weakness | e. straight |
| 6. toxic | f. marvels |
| 7. routes | g. frailty |
| 8. treat | h. line-up |
| 9. arsenal | i. lethal |
| 10. directly | j. poisonous |

Discussion – Student A

- a) What do you think about what you read?
- b) Should we all learn about what plants are dangerous?
- c) What are your least favourite flowers and plants?
- d) Do you ever take painkillers?
- e) What do you do about pests in your house?
- f) What new medicines would you like to see?
- g) Do you take a lot of medicine?
- h) What questions would you like to ask the researchers?

Phrase Match

1. The world of plants is full of natural
2. some species of flowers can
3. Killers have used these for centuries
4. cause death from respiratory
5. biohacking of the plants'
6. researchers recreated the toxic
7. They could be used as a
8. treat malaria
9. over millions
10. inspired by plant

- a. chemical makeup
- b. painkiller
- c. be deadly
- d. and cancer
- e. paralysis
- f. of years
- g. medicinal wonders
- h. compounds
- i. chemistry
- j. to poison people

Discussion – Student B

- a) What do you think of plants as medicine?
- b) Are natural or synthetic medicines best?
- c) What deadly plants do you know of?
- d) What dangerous plants do you know of?
- e) What are your favourite flowers and plants?
- f) What do you think of 'biohacking' plants?
- g) Has a plant or flower ever caused you harm?
- h) What do you think of botany?

Spelling

1. full of natural iidcaenlm wonders
2. two particularly osoounpsi plants
3. cause death from respiratory lsaiyarps
4. cause leselkat muscle weakness
5. onhkigbiac of the plants
6. create valuable tsieuapercth
7. toxic dnocspumo
8. used as a irileaknpl
9. treat laramia and cancer
10. upgrading their lsenara
11. help them eirvvsu
12. irpsnedi by plant chemistry

Answers – Synonym Match

1. f	2. i	3. d	4. b	5. g
6. j	7. c	8. a	9. h	10. e

Comprehension Questions

Listen to / read the news article. Answer these questions.
(Answers are on p. 27 of the 27-page PDF.)

1.	What does the article say the world of plants is full of?
2.	For how long have plants been used to poison people?
3.	What kind of scientists conducted the research in the article?
4.	What could the plant wolfsbane do to the respiratory system?
5.	What could the plant larkspur do to skeletal muscles?
6.	What did the researchers recreate from the two plants?
7.	What could new medicines be used to kill (besides pests)?
8.	What could new medicines treat (besides malaria)?
9.	What do plants keep upgrading?
10.	What are many of today's medicines inspired by?

Speaking – Plants & Flowers

Rank these with your partner. Put the most useful at the top. Change partners often and share your rankings.

- Cacti
- Cotton
- Lotus
- Sunflowers
- Bamboo
- Wheat
- Aloe vera
- Garlic

Answers – True False

1	F	2	T	3	F	4	T	5	T	6	T	7	F	8	T
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Answers to Phrase Match and Spelling are in the text.