# How can it be legal to grow vegetables under photovoltaic panels

Can you grow crops under photovoltaic panels?
Research indicates that growing crops beneath photovoltaic displays can actually yield a distinct set of agricultural and environmental benefits. Thanks to the shade provided by the panels,for example,the soil can retain more water,meaning it needs less irrigation.

Can you grow crops under solar panels?
Growing crops under solar panels has been largely confined to research test plots,though this is beginning to change. At least five commercial solar-crop sites are operating in Colorado,Massachusetts,and Maine. A few states are encouraging the construction of agrivoltaics through incentives or research.

Are solar panels good for agrivoltaic crops?
Raspberries grown under solar panels in the Netherlands. Image courtesy of GroenLeven. Many agrivoltaic trials have reported promising results. For example,a project in southern France found that grapes grown under solar panels needed less irrigation and were of higher quality.

Should agrivoltaics be limited to the types of crops people eat?
Barron-Gafford also points out that agrivoltaics need notbe limited to the kinds of crops people eat. A farmer might let native grasses grow wild under the panels,providing food for livestock,which would also benefit from the shade. Or they might promote the growth of plants for native pollinators like bees.

Could agrivoltaic farming be a solution?
Agrivoltaic farming could be a solutionto not just one but both of these problems. It uses the shaded space underneath solar panels to grow crops. This increases land-use efficiency,as it lets solar farms and agriculture share ground,rather than making them compete against one another.

Can agrivoltaics be used in solar field development?
As interest increases, we hope to see new partnerships arising here in the US that incorporate agrivoltaics into solar field developments. Maine's wild blueberries are a unique crop that can't be planted from seed, explains lifelong blueberry farmer Paul Sweetland.

Agrivoltaics is new to U.S. crop farmers, but the DOE is working to help them understand and deploy the practice by supporting research. Iowa State University received a $1.8 million DOE grant to test the "possibility ...

Our results indicate that lettuce productivity and the corresponding photosynthetic rate were not affected under the photovoltaic cultivation in comparison with the reference one. On the other ...

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Placing abundant vegetation under panels leads to an increase in ground shade and humidity, which, in turn, leads to cooler photovoltaic cells and higher energy yields. One recent study found...

Dr. Chad Higgins, Associate Professor of Agriculture at Oregon State University, has put together a team to answer these questions, Establishing Solar Harvest, an agrivoltaic research project located at the OSU North ...

This resulted in a reduction of the temperature of the panels by 8.9 °C during the daytime in the growing season. Considering that the panels used were most efficient ... the ...

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Kale, chard, broccoli, peppers, tomatoes, and spinach were grown at various positions within partial shade of a solar photovoltaic array during the growing seasons from ...

With dual-use agrivoltaics, crops are grown under or between the rows of solar panels, with the aim of generating renewable energy without removing farmland from production. Farmers or landowners can collect ...

The shade from the panels safeguards vegetables from heat stress and water loss. This has resulted in rural farmers growing a more fantastic range of higher-value crops. In addition, the researchers say the project ...

On the other hand, Hassanien et al. (2018) reported a decrease of 1e3 C under the semitransparent mono-crystalline silicon PV panels, similar to the results in the present study.

Agri-PV (PV stands for photovoltaic, another term for solar panels) combines agriculture with solar energy production. In the Netherlands, only a handful of growers have solar panels above their ...

In agrivoltaics, farmers grow crops beneath or between solar panels. Proponents say the technology can help achieve clean energy goals while maintaining food production, but experts caution that ...

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