


Farming on roof

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Farming on rooftop. Fish farming on rooftop. Project zomboid farming on roof. Hydroponic farming on rooftop. Organic farming on rooftop. Hen farming on rooftop. Rooftop farming. Goat farming on rooftop.

Photo courtesy: James O'Neil/Getty Images
As the global population moves closer and closer to the 8 billion mark, the amount of sustenance needed to maintain all of our nutrients continues to rise – putting stress on every aspect of our food system in the process. Fresh produce farming in particular faces difficulties in scaling back production to meet our growing demand, largely due to the need for more space in which to grow crops. The main way farmers have responded has been to progressively adopt more efficient equipment for planting and harvesting crops, but the way we raise the land itself has remained largely unchanged. However, a new kind of farming is currently knocking on the barn door: Vertical farming is catching the eyes of farmers and investors. With its cheaper and more sustainable methods, vertical farming can soon see a more widespread use thanks to some of its main advantages. Not only can vertical farming reduce the costs associated with production (and pass those savings along with consumers), but drought-stricken regions around the world may also be better able to grow as much products with a fraction of the traditional water crops require. Curious to find out how this concept could change trade, our climate – and the world of investment? Join us for a look at vertical farming and the ways it can be an investment worth sowing.
Photo courtesy: JohnnyGreig/Getty Images
Vertical farming is exactly what it sounds like à more than more. Farmers plant crops on areas that are stacked vertically, rather than spreading further and further through the horizontal horticulture that we have been using for centuries. Because farmers can spread vertical layers in the air, they can use more of their farmland for more vertical layers – and grow more on a much smaller footprint of land. Vertical farming allows growers to plant much more crops on the rise than they already own because they can expand upwards and no longer need to expand outwards. It is a principle similar to apartment complexes. Building, a much larger population can live on the same plot of land that might otherwise fit only a few families into radish houses. And, buildings and apartment complexes in metropolitan areas can also use vertical agriculture to grow products, allowing people to shop locally and reduce their carbon footprint. Some vertical farms are built outdoors where crops are traditionally grown. Other farmers build buildings, such as warehouses and greenhouses, or containers for holding crops. Using these facilities and adequate lighting equipment, farmers have the ability to grow crops all year round, limiting the intrusion of pests and damage from poor environmental conditions or natural disasters. Vertical farming can also allow farmers to operate in areas that traditionally do not make ideal farmland. Photo courtesy: webphotographeer/Getty Images
As mentioned, vertical farming has the potential to fight fight fight change. When the previously cultivated land is returned to the natural state, it is a process called “refaciation”, so that the typical ecosystems of the soil, including the native flora, can regrow and adjust the environment better. In addition, traditional agriculture degrades water resources and is responsible for the issuance of almost a quarter of global greenhouse gases. But vertical agriculture uses between 70% and 95% less water than traditional agriculture uses for cultivation. À Vertical farmers use hydroponic systems to irrigate their crops, and these designs use much less water because they recirculate. Hydroponic systems create a unique ecosystem that recycles water supply and provides farmers with the possibility to cultivate virtually any type of crop at any time of the year thanks to constant water supply. According to the Harvard Business School, “the technology of vertical agriculture can produce 350 times more in a given area than conventional farms, with 1% of water”. Vertical agriculture can limit the contribution of agriculture to climate change in other ways. According to the Center for Biological Diversity, “the US transport sector is responsible for approximately one third of the harmful emissions for the climate of our country”. Part of this transport involves the shipment of fresh produce from farms to cities, often on one side of the country. In addition, the United Nations reports that by 2050 it is expected that 68% of the world population will live in urban areas, which means that a greater number of people will live further from traditional farms and more trucks that emit greenhouse gases on the roads to bring fresh produce to food stores, food supply chain.
A Photo Courtesy: Pula Damonte/Getty Images
All investments involve different levels of risk, and emerging technologies such as vertical agriculture tend to be more risky due to their impact and longevity. Not yet clear. However, vertical agriculture technology has already attracted the attention of private investors such as Google Ventures, who invested \$90 million in Bowers Farming, IKEA, which has committed to investing \$15 million in the AeroFarms internal agricultural startup, and Softbank, which invested \$200 million in Plenty, a vertical agriculture company that also uses artificial intelligence. This trust is reassuring and the potential for vertical agriculture seems really bright thanks to the positive way it stands to increase our access to food and, at the same time, fight climate change. According to Forbes, «The market for internal agricultural technologies has been estimated at \$23,75 billion in 2016, and is expectedreach \$40,25 \$40.25by 2022”, which means it could almost double, and soon. However, while the decisions of venture capitalists can serve as good endorsements, the average investor should take them with a grain of salt. This industry has not had much time to stabilize yet, and it is vital to consider your level of financial risk tolerance before making the leap into investment. Also, many vertical farms haven’t been public yet, which means you can’t invest in them for now à but you can start trying to make an informed decision when the time comes. Photo courtesy: mustafagull/Getty Images
If you’ve decided to take the investment leap and make vertical farms a part of your portfolio, you might consider opting for traded funds (ETFs) instead of individual stocks for the time being. Since ETFs can contain more types of assets and distribute risk more evenly among the assets they contain, they can be ideal for newer investors who want to get a piece of this emerging industry. Instead of betting on a single corporate stock to perform well, an ETF allows you to hold multiple stocks from the same industry – and if you perform poorly, you don’t take so much of a success thanks to integrated diversification. Unfortunately, the vertical farming industry is still not there enough à there are no dedicated ETFs to provide you with an easy and diversified way. Investing in vertical farming means investing in individual farms or other agri-food sectors that can benefit if vertical farming really takes off. That said, there are some individual stocks that you might consider adding to your portfolio. These include: AppHarvest (APPH), an indoor farming technology company that owns several of the largest indoor farms in the United States Spring Valley Acquisition (SV), a company that is undergoing a merger with AeroFarms (one of the first vertical farms) and will soon be available for public trading under the ticker ARFM Hydrofarm Holdings Group (HYFFM), which produces controlled indoor-wide equipment vertically This emerging sector has a large potential for growth, but it is understandable if you decide to wait for ETFs to go as far as to mitigate personal financial risk. While the green construction movement is making great strides most buildings still waste a large amount of energy, often through the roof. When the sun beats down on a roof it can also heat the rest of the building, making air conditioners pump the heat back. Fortunately we already have solutions available today for this problem, creating cold roofs using membranes, coatings or other materials thatLight and heat. Installing cold roofs can reduce roof temperatures by up to 100 degrees F, go companies installing these cold roofs help people save money and do the right thing for the environment at the same time. By providing additional support for cold roofing, several states are beginning to require cold roofing as part of their construction standard. In California, Title 24 building regulations now require cold roofs on new commercial roofs and major repairs to existing roofs. This requirement was expanded in 2009 to begin to include residential roofs as well. The Cool Roof Rating Council helps test and certify cold hedge material and provides information on the cold hedge industry. Michael Magallanes is the VP of Sales for CCJJ LLC in Special Construction Materials, which produces Coat “N” Cool coatings that reflect light and heat while keeping the roofs cool. Applied as paint, their products are available in a variety of colors and by keeping the roof cool they can also help roofs and HVAC equipment to last longer, providing additional savings. How can an entrepreneur enter the cold roof market? Wait long enough and the fresh roof market will come to you. In California, this is already happening. As Magallanes says, when the government orders cold blankets, “most cold blanket contractors would automatically enter the business, whether they like it or not.” The list of states requiring cold blankets in at least some buildings is growing, including requirements in Texas, Florida, Georgia, South Carolina and many more. Entering cold roofing today can become well established in the growing market as they are being created. Magallanes suggests: “The best step to take is to be proactive and start using fresh roof materials to get in and stay ahead. Join the Cool Roof Rating Council. Join the United States Green Build Council (www.usgbs.org). Consider becoming a LEED AP through the USGBC. Build a green portfolio that will pay big dividends in the future.ÀÀ– The benefits of cold roofs are significant, and another example of how to turn a problem into a fast-growing opportunity for businesses to do well and do the right thing.