

As a cannabis consumer, you may see hemp as only being an alternate source of CBD—in particular, if you live in a prohibition state. However, as an agricultural product, [industrial hemp](#) is in a class by itself for diversity and sustainability—both of which are vital to the future of the American economy.

[There are over 25,000 individual products that can be manufactured from the parts of the hemp plant](#), including:

- Consumer textiles (for clothing, shoes, handbags, belts, wallets, etc.)
- Industrial textiles (for rope, canvas, netting, tarps, etc.)
- Building materials (including a high-quality cement/brick replacement with excellent insulating capacities called hempcrete, which is made from hemp stalks, lime, and water)
- Paper (of virtually all types)
- Biofuel (ethanol and biodiesel)
- Industrial chemicals (lubricants, paints, solvents, varnish, etc.)
- Plastics (hemp produces sturdier bioplastics than other plant-based alternatives)
- Personal care products (hemp seed oil can be used to make cosmetics, shampoo, soap, lotions, etc.)
- Foods (hemp seeds can be processed and turned into cereal, granola, milk, cheese, protein powder, tofu, flour, birdseed, animal feed ... the list goes on and on)
- Medicines (for products that contain cannabidiol (CBD), which has diverse healing and pain-relieving properties)

Crop yields with industrial hemp can run as high as 10 tons per acre in four months, and since both the seeds and stalks can be harvested and processed, most of this material can be converted into useful products.

Although the industry still has [growing pains to go through](#), hemp holds an incredible amount of promise. Drone technology in agriculture settings may reduce some risks and provide farmers valuable insight.

## **There's a Drone for That**

Although drone technology may be used for nefarious reasons like neighbors and governments spying on each other; [drone "swarms"](#) that can take on the predatory nature of bees and used as weapons during wartime—or even for [assassination attempts](#) on presidents, there are many more positive applications for drones.

### Smart Farming

Welcome to Smart Farming. [The Food and Agriculture Organization of the United Nations](#) defines Smart Farming as the following: “Smart Farming is a farming management concept using modern technology to increase the quantity and quality of agricultural products. Farmers in the 21<sup>st</sup> century have access to GPS, soil scanning, data management, and [Internet of Things](#) (IoT) technologies. By precisely measuring variations within a field and adapting the

strategy accordingly, farmers can greatly increase the effectiveness of pesticides and fertilizers, and use them more selectively.”

In anticipation of the [federal farm bill](#) in December 2018 that legalized the cultivation of hemp in the US and its territories, Terry Roston and Sandra Thibodeau founded [INET Corporation](#), a technological supply chain company that focuses on traceability and blockchain technology and other services needed by companies and government agencies. They explained why using drones in any agriculture setting makes sense.

“Sandra comes to INET with a background as a procurement specialist for the federal government,” explained Roston. “My background is in logistics, Internet security, and supply chain management. Combined, we know how to ensure hemp farmers have the tools they need to produce successful crops year after year while complying with the government’s strict procurement and supply chain standards.

“Smart farming is coming to the hemp industry—whether we like it or not—which includes using drones. We already know it will soon be a requirement by the U.S. government. Understanding how this technology works now can put you ahead of the curve and in compliance with the government faster than those who are resistant.

“Drones make our lives easier,” said Roston. “I’ve been using them in agriculture for the last three years. I can’t imagine running a large industrial hemp farm without one.”

### Crop Scouting

Imagine telling a drone to look for a plot of land that meets your criteria for size, shape, topography, drainage and soil type, and within a few minutes, it gives you the GPS coordinates of several potential properties for sale.

“Drones have a 10-mile perimeter, and they can travel at a rate of between 35 and 45 miles per hour / 56 to 72 kilometers per hour,” said Thibodeau. “Given these specs, you should be able to virtually visit several properties a day, all without having to spend your entire day on the road driving.”

### Mapping the Terrain

Drones allow farmers to know their plot of land intimately, faster and more efficiently than waiting between two and four growing seasons and lots of trial and error to learn.

Drones can tell farmers about the topography and the soil type of each section of the farm. They can also warn about any potential problems, such as drainage issues or areas that are prone to erosion. Knowing these things ahead of time can influence decisions like how far apart to place each hemp seed, what nutrients are needed in one sector but not in another, and which areas to be mindful of to keep a closer eye on.

Drones can also pinpoint the precise location that requires erosion control or extra tilling, for example, both of which can be done without destroying the plants in the surrounding area. By

identifying these issues early, drones can save you a lot of money, time, and energy trying to determine these things on your own.

“Having a drone means your decisions are made based on hard data at your fingertips in a matter of moments, thus eliminating gross errors or waiting several planting seasons to discover on your own,” said Thibodeau.

### Crop Rotation

To keep soil replete with nutrients, farmers often rotate crops. Some crops deplete the soil of essential nutrients like nitrogen and magnesium. By rotating in a crop that replenishes the soil, farmers keep their crops and soil at optimum health, growing season after growing season—without the use of [chemical fertilizers](#).

Physical items made from hemp are highly biodegradable in general, and hemp even helps fight climate change by sequestering carbon at an impressive rate of efficiency. The beauty of hemp is that one season farmers can plant hemp for textiles and the next for CBD, increasing profits (serving two different industries), while being kind to your soil.

### Spraying Pesticides and Herbicides and Adding Fertilizer

Because it has little need for herbicides ([like Roundup with known carcinogenic glyphosate](#)), pesticides or fertilizers, [hemp is ideal for organic farming](#). Hemp is hardy and self-reliant, growing high enough and thick enough to crowd out invasive species (weeds). It has a natural resistance to pests.

It can contribute to environmental preservation by acting as a replacement for petrochemicals, timber, and chemical-intensive plants (like cotton, soybeans, and corn) used in the production of many consumer products.

In addition to its material utility, industrial hemp scores big in the sustainability category, so you can save your drone for other applications.

### Supply Chain/Chain of Custody

From the government’s perspective, the ability to track a hemp plant from seed to sale is crucial. Whether it’s a T-shirt made from hemp or a bottle of CBD oil sold over the Internet or at your local health food store if something goes wrong at any point in the chain of custody, drones can track it:

- From the store where it was sold,
- To the manufacturer who created the extraction
- And the farm that planted the seed.

## The Million Dollar Question

Cannabis farmers and entrepreneurs want to know important things like how many drones they need for the area of land they want to buy or already own, and how much they'll cost. Drones run between \$2,000 and \$35,000 each.

For a piece of property that's 50 acres or more, Rostin and Thibodeau recommend buying two drones. They say to expect to spend about \$7,000 for each drone. Before you get sticker shock, ask yourself what you would pay to know about your farm within a few minutes or even hours what it would take you two to four growing seasons to learn on your own? A drone solution may be an invaluable opportunity to efficiently track and manage your crops.

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