



NORTH CAROLINA AGRICULTURAL
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Industrial Hemp 101

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AGGIES **DO**

Industrial Hemp

- An annual plant.
- Strongly photosensitive.
 - Short days to flower.
- Types: for fiber, grains/seed oil, *CBD oil*.
- Mostly dioecious, a few monoecious.
- Male plants.
 - Essential for Grains.
 - Useless for CBD oil (low CBD).

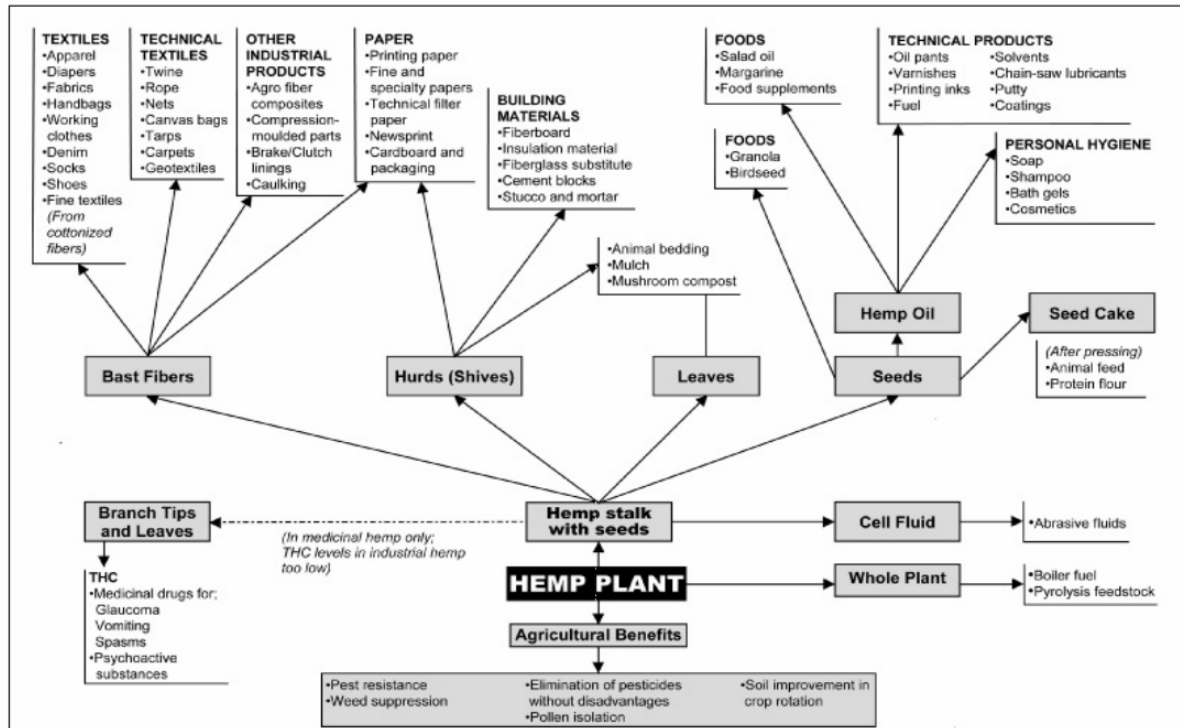


Industrial Hemp has more than 25,000 products

Mostly/All Imported!

- Fibers
- Oilseed
- Pharmaceuticals
- Others: building materials, plastic and composite materials...

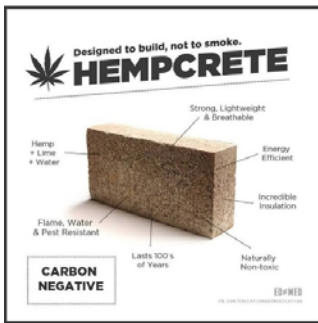
Figure 1. Modern Uses for Industrial Hemp



Source: Industrial Hemp Association of Tasmania, <http://www.ihat.org.au/>.

Notes: Other hemp product charts include D. G. Kraenzel et al., "Industrial Hemp as an Alternative Crop in North Dakota," AER-402, North Dakota State University, July 23, 1998; and National Hemp Association, <http://nationalhempassociation.org/>.

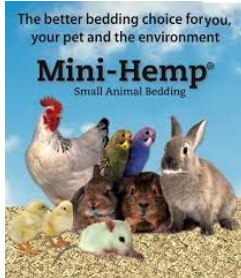
Seed and Oil



Hemp looks like this.

I am hemp. Less than 3% THC, over 75 U.S. manufacturers make hemp products, like clothing, t-shirts, jeans and more. Hemp is largely imported from Canada & China, but we could make it legal to grow it here. Learn more at ThisHemp.org

#TN4Hemp



Hemp looks like this.

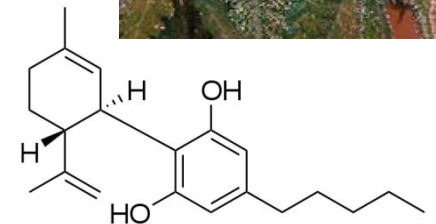
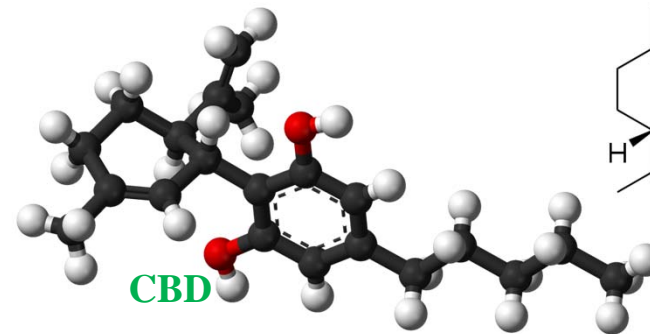
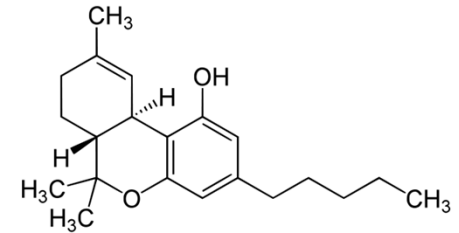
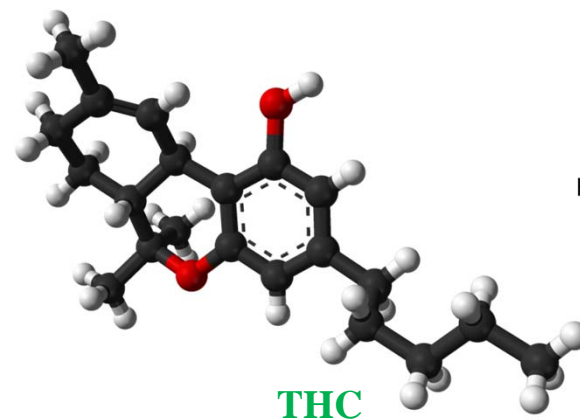
I am hemp. Less than 3% THC, over 75 U.S. manufacturers make hemp products, like hemp seed oil, cancer fighting CBD extract and healthy cooking oils. Hemp is largely imported from Canada & China, but you could make it legal to grow here. Learn more at ThisHemp.org

#TN4Hemp



THC vs CBD

- Both are cannabinoids, which is rich in trichomes of the bracts of female flowers.
- Tetrahydrocannabinol (THC):
 - A psychotropic cannabinoid.
 - The principal psychoactive constituent of cannabis.
- Cannabidiol (CBD):
 - One of at least 113 active cannabinoids.
 - A major phytocannabinoid, accounting for up to 40% of the plant's extract.
 - Does not have any intoxicating effects but may have effects on anxiety & an anti-psychotic effect.



Industrial Hemp vs Marijuana: *Cannabis sativa* L.

- *Industrial Hemp*

- Cannabis varieties that are primarily grown as an agricultural crop (seeds and fiber, and by-product such as oil)
- *Low THC (delta-9 tetrahydrocannabinol) content: $\leq 0.3\%$ (2014 Farm Bill)*
- *High CBD (cannabidiol) content*

- *Marijuana*

- Psychoactive cannabis varieties grown for high THC content ($>0.3\%$, average about 10%)
- Harvest the flowering tops and leaves
- Less CBD content

*You will **NOT** get **HIGH** with industrial hemp!*