Industrial Hemp 101

Dr. Sanjun Gu, and Dr. Guochen Yang

Horticulture Extension Specialist, Professor of Horticulture, CAES Commissioner (Dr. Yang), NC Industrial Hemp Commission
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…


Applications of Industrial Hemp

Seed and Oil

Credit: Emily Febles
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: ≤ 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!