This is not your father’s weed.

Colorado marijuana is nearly twice as potent as illegal pot of past decades, and some modern cannabis packs triple the punch of vintage ganja, lab tests reveal for the first time.

In old-school dope, levels of THC — the psychoactive chemical that makes people high — were typically well below 10 percent. But in Colorado’s legal bud, the average THC level is 18.7 percent, and some retail pot contains 30 percent THC or more, according to research released Monday.

“That was higher than expected,” said Andy LaFrate, president of Charas Scientific (http://charasscientific.com/). His Denver lab is licensed by the state and paid by marijuana businesses to measure the THC strength in their products before they go to market. “It’s common to see samples in the high 20s.”

What’s really in — and not in — Colorado’s retail weed surprised LaFrate. After analyzing more than 600 samples of bud provided by certified growers and sellers, LaFrate said he detected little medical value and lots of contamination. He presents those findings Monday to a national meeting of the American Chemical Society, a nonprofit scientific group chartered by Congress.

“We don’t want to be alarmists and freak people out, but at the same time we have been finding some really dirty marijuana,” LaFrate told NBC News.

Some green buds he viewed were covered in funghi — and he estimated that several marijuana flowers were “crawling” with up to 1 million fungal spores.

“It’s a natural product. There’s going to be microbial growth on it no matter what you do,” LaFrate said. “So the questions become: What’s a safe threshold? And which contaminants do we need to be concerned about?”

For example, he also examined more than 200 pot extracts or “concentrates” and found some contained solvents like butane. All the tests were done with high-performance liquid chromatography, a method to separate, classify and measure individual compounds.

What LaFrate didn’t see, however, also astonished him. The 600-plus weed samples generally carried little, or no cannabidiol, or CBD — the compound that makes medical marijuana “medical.” The average CBD amount: 0.1 percent, his study reports.

CBD is anecdotally known to control depression, anxiety, and pain. About 200 families with ill children also moved to Colorado to access a strain called Charlotte’s Web, which appears to control seizures in some kids.
“It’s disturbing to me because there are people out there who think they’re giving their kids Charlotte’s Web. And you could be giving them no CBD — or even worse, you could be giving them a THC-rich product which might actually increase seizures,” LaFrate said. “So, it’s pretty scary on the medical side.”

The majority of samples tested came from recreational-pot merchants. Under Colorado law, recreational weed must be tested for potency. Some medical-pot sellers voluntarily provided samples to LaFrate. Colorado does not require pre-sale testing of medical marijuana. LaFrate did not analyze any edibles.

“Really, there is very little difference between recreational and medical in terms of the THC-to-CBD ratio, at least at the aggregate level,” LaFrate said.