



BEYOND BUDS

– MARIJUANA EXTRACTS –

Hash, Vaping, Dabbing, Edibles & Medicines



by Ed Rosenthal

with David Downs



Bubba Kush bubble hash.

Photo: Bubbleman

Chapter 4.

Advanced Hash— Beyond the Basics

Concentrated cannabis may be the future of marijuana as a medicine and as a recreational substance. You've read about how water and ice can be used to mechanically separate trichomes from the plant, and filters can concentrate the glands into unpressed hash. Now you'll see these processes are further refined using machinery and tighter control of temperature and humidity to yield the strongest nonsolvent concentrates. We'll also detail pressing classic hashish, which is a collection of marijuana's resinous glands compressed into balls, cakes, or slabs.



Nonsolvent extracts.

Photo: Pollinator



Several kinds of hash, including Nepalese Temple Balls, Blonde Lebanese, and Afghani slabs.

Photo: Ed Rosenthal

The origins of hashish date back millennia and are believed to have begun in Asia, near the Hindu Kush region. Hash making has a long tradition in many countries near the 30th latitude, including India, Nepal, Afghanistan, Pakistan, and Lebanon.

Making hashish is a two-step process. In step one, the glands are collected. All collection methods yield a consumable product, but it is not yet hashish. Hashish involves a second step: compressing the collected material into bricks or balls.

Sifting for kief is the primary low-tech way to collect glands for hash. Water hash can be pressed using the same methods. Another method of collection—hand rubbing—dates back to ancient times. While low in yield, this often produces extremely high-quality hash. Hand-rubbed hash is collected fresh from the plant, and the resin is still

sticky, so the method of pressing involves a slightly different process.

Pressing hash involves a combination of force and mild heat to condense the glands into a solid mass. The shape and size of hash varies depending on the pressing method. When hand pressed, hash is often ball-shaped. Flat-pressed hash may look like thin shale rock, with hardened shelf-like layers that chip along the creases. Mechanically pressed hash is usually a neat cake, like a bar of soap. Hashish ranges in color and pliability. The variety of marijuana used, manufacturing method, temperature, and the purity of the kief influence



Mechanically pressed hash.

Photo: DoobieDuck.com

its color, which ranges from light yellow-tan to charcoal black, and its texture, which ranges from pliable taffy to hard and brittle.

Hashish oxidizes and darkens from exposure to light, oxygen, and heat. Regardless of its texture, high-quality hash should soften with the simple warmth of your hands.

Aficionados often describe the high that hash produces as more complex than that of kief. In the region of traditional hash making, kief is typically aged, sometimes for a year or more, before it is pressed. Most modern hash makers do not wait that long.



Full melt bubble hash.

Photo: Steep Hill Halent

WHAT IS HASHISH?

Ask Ed

Ed:

What exactly is hash?

*Shales
Oakland, California*

Shales:

Hashish, or hash, is a conglomeration of crushed and heated glands or trichomes. Using gentle heat and pressure the gland heads' membranes break, releasing the viscous liquid. The pressure forces out the air, leaving the pure mass of crushed glands.

Hash can be made as easily as placing some kief in cellophane, wrapping it carefully, and then placing it inside the heel of your shoe. Walk and stand on it for 15–30 minutes, and unwrap the newly pressed hash. A friend showed me how he makes it using a thin cotton cloth to wrap the kief. Then he presses it using a dry iron. Commercially, hash is made using high-power presses. The most sophisticated of these units heats the material in addition to applying pressure.

TIP: Unpressed kief oxidizes in warm temperatures, while hash is more resilient to warmth, so long as it is pressed when it is totally dry. When pressed wet, however, hash molds. You can store material in its unpressed form in a cool, dark place. Once pressed, hash stored in the freezer suffers little from aging.

INTRODUCTION TO ADVANCED WATER HASH

Water hash can be as strong as and tastier than the newer solvent hashes. In the 2013 Emerald Cup—a longtime, outdoor organic medical marijuana competition in Northern California—the first- and second-place water hash winners tested at 67% and 70% THC, a metric once thought impossible for old-school bubble hash.

Advanced water hash uses the same principles outlined in the Water Hash chapter, it just takes into account more variables, from the strain type and trichome shape to harvest methods and ambient temperature and humidity in the washing room.



Converted cold-water washing machine being loaded with trim to make hash.

THE MACHINE METHOD

There are several key principles for producing the highest-quality, dabble water hash.

First, trichomes must be treated gently. Mechanical agitation in the ice-bath stage is needed, but it's also the enemy. Paint mixers are too rough for award-winning bubble. Use a special machine such as the Bubbleator (from the Pollinator Company), the Bubble Now, or the gentle cycle on a washing machine modified by removing its filters.

Second, heat is an enemy. It can dry out buds and sap them of their flavors and strength. During drying, high temperatures vaporize the hash's great flavors. Storing hash at a high temperature degrades its flavor and potency.

The result of paying attention to the fundamentals of the process is phenomenal. High-grade water hash is being rebranded as “solventless wax.” It gives consumers who want to dab a tasty, effective option that doesn’t involve explosive solvents.

Equipment

- 20-gallon Bubble Now, Bubble Magic Extraction Machine, Bubbleator, or top-loading washing machine
- Bubble Bags (microns—220 zippered to hold the grass in the washer; 160, the first filter, removes contaminants; 73 for low-grade; 25 for high-grade)
- Cannabis (1000 to 2500 grams, frozen, high-tri-chome leaf)
- Water (filtered for best results)
- Ice—enough to fill the machine 60% full, and refill it as it melts
- 20-gallon bucket
- Alcohol or hydrogen peroxide
- Gloves
- Spoon
- Sieve
- Parchment paper
- Thick cardboard



Bubbleator.

Photo: Pollinator

Method

Consider the best location for setting up the machine. The best situation is a sterile lab setting. Hash is very sticky, and captures contaminants floating in the air, such as dander, dog hair, and dust. A room with filtered air is best. Outdoors, dry dusty days are a poor choice, but days after a rain when the air

is clean are acceptable. The ambient temperature is best below 65°F (18°C) with low humidity—between 15% and 50%. Hash is oxidized and darkens when it is manufactured or stored for long periods at high temperatures such as 80°F to 90°F (27°C to 32°C).

Next, consider the source material. Dried, cured, sugar leaf works fine, but the best water hash is made from fresh-frozen material. Trichome-rich leaves are cut from ripe plants, bagged in Ziploc freezer bags, and frozen. Freezing locks in all the terpenes and cannabinoids present on the plant at the time of harvest, rather than losing significant amounts of both to drying, curing, and processing.

Thoroughly disinfect the machine, hose, bags, and buckets using hydrogen peroxide.

Line your 20-gallon bucket with filter bags, starting with the finest 25-micron bag and ending with the biggest 160-micron bag.

Place the machine's outflow hose into the filter bucket.

Place a base layer of ice in the machine.

Fit the open, 220-micron bag in the machine and add the material.

Fill the bag half-full with nine parts trim to one part ice. Alternate adding trim and ice. Zip up and tie the top of the bag, and pour more ice over the bag until the ice level reaches eight inches below the rim of the machine.

Next, add water until it's four inches below the surface of the ice. Wait 15 minutes for the trim to soak up the water, then add more ice and water, until the water is below the ice's surface level, and the ice is eight inches below the rim of the metal basin. Leave room for the mixture to agitate.

Turn the machine on gentle and monitor the agitation. Use wooden spoons to help the bag settle into the ice bath. Add more ice and water as the ice melts and settles. The color of the water should turn completely gold quickly. On a standard washing machine, use the gentle cycle. DO NOT let the device automatically drain. Run two gentle agitation cycles—*then* let it drain.

During this ice-cold agitation process, the brittle, frozen trichomes will have snapped off the leaf, traveled through the lining of the 220-micron “garbage” bag, and into the ice bath. The water turns green and the plant oils make the surface of the water frothy.

After agitation, the machine pumps the trichome-rich water out of the washer basin and into the filter bags, which are set up inside the 20-gallon bucket.

The inside of the bucket will be foamy with cannabis oils. Jiggle the bucket gently to help water pass through the filters and use filtered ice water in a small pump sprayer to rinse the trichomes off the bag's sides and down and through the 160-micron filter.

Start pulling the bags up one at a time.

First pull out the “garbage” bag. The material inside the bottom of the bag looks like green silt. Rinse down the edges, get everything collected in the bottom, and pull out the garbage.

Pull the second bag, then spray, jiggle, and repeat. The 73–160-micron stuff is a little green, but not as green as the first bag. Keep pulling, spraying, and jiggling until it’s all collected in the middle of the mesh. Trichomes smaller than 70 microns pass through the mesh but everything from 73 to 160 microns will be collected. (The sweet spot for trichomes is 70 to 160 microns, with tinier ones better for dabbing, and the bigger stuff more suitable for edibles.)

Pull up the bag to the top and spoon out the green-colored wet paste onto parchment paper set on a towel or thick cardboard, or something else that will safely wick moisture away.

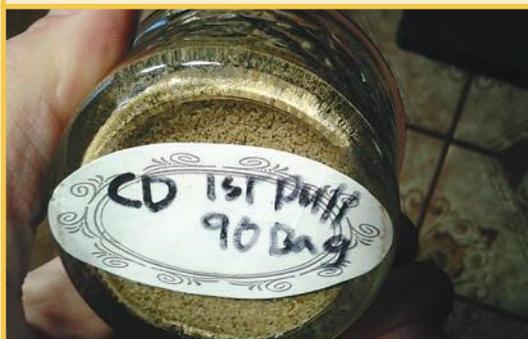
The next bag catches the vast bulk of trichomes between 25 and 73 microns. The material in here is both green contaminant and gold trichomes. The goal is to push the green through the screen while holding on to the gold.

Pull the bag up; it’ll be heavy with water, its pores clogged with trichomes. Much like panning for gold, you want to lightly spin the emulsion while spraying down the sides. The mesh holds on to the glands while the fine green particles fall through with the water. Keep spraying, rotating, and pulling until the green is gone and it just looks like a bunch of golden sand.

Remove this light clay-like wet hash from the mesh and place it on a drying surface. Once the bottom of the mesh bag is scraped clean of any remaining



73-micron hash.



90-micron hash.

Photos: David Downs