

The Great Fertilizer Experiment

Who's got the best shit?

BY GURU FRED BUDMAN AS TOLD TO ED ROSENTHAL

I love good pot. I can stay stoned all day and still get on with my life. In fact, I have a good job as a brain surgeon (just kidding) but I do have a good job, support my family and get to do all the usual things. The fact remains, I love good pot. It has to be fresh, too. If it's dried out or fermented like most Mexican, or moldy, I won't put it between my lips.

So I try to grow potent, tasty, pleasant-tasting herb. I am not addicted to pot even though I smoke a lot of it. I often travel and go without and have no problems. Given the choice, though, I'd rather be stoned.

Ed Rosenthal once wrote that smoking pot is not addictive, but that growing is. Well, when Proposition 215 won and medical patients like me could grow legally, I started my first garden since 1983. It felt like I had been released from prison. There is joy in watching the plants grow and mature, and of course the big payoff comes at harvest time. I guess it's the same pride a gardener has when tasting a homegrown tomato that's better than any from a store.

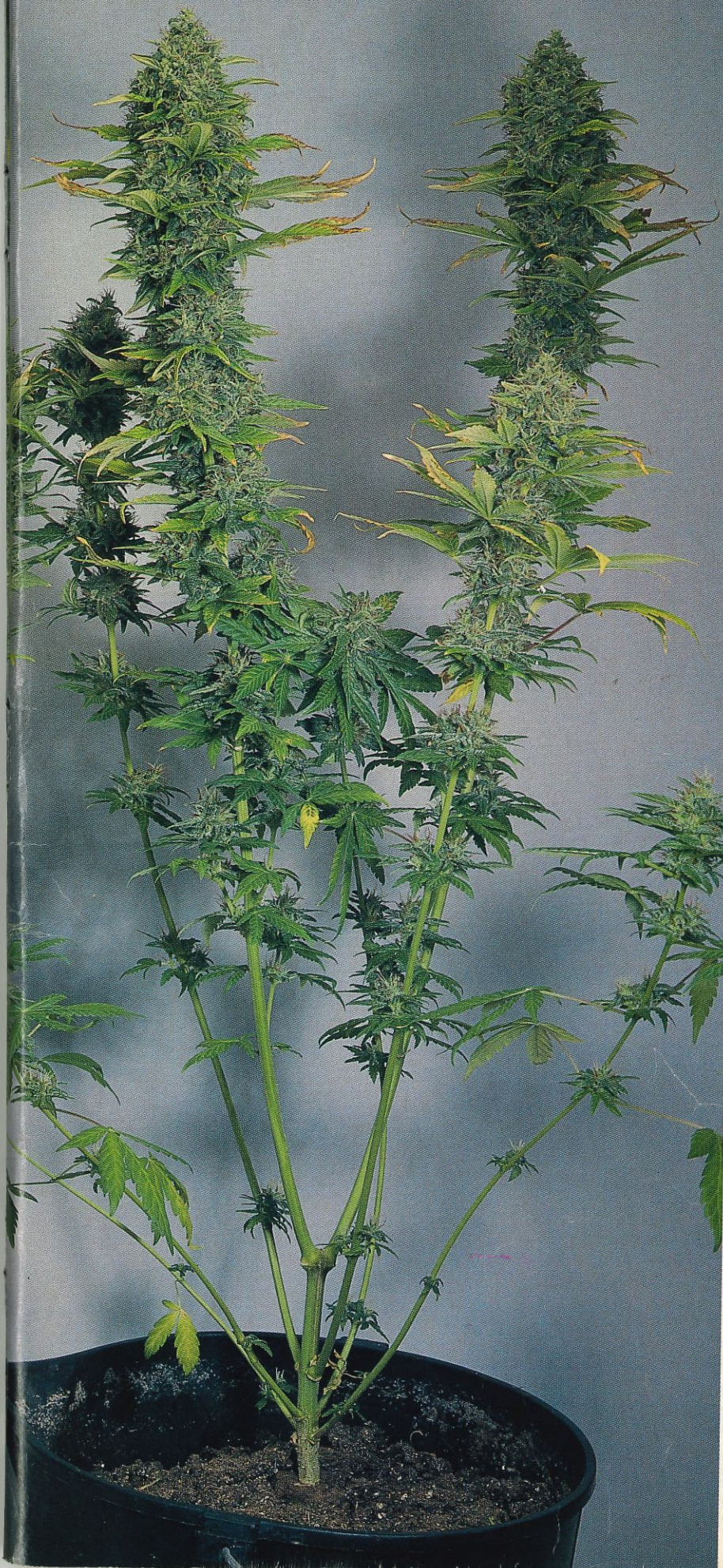
I love growing so much I decided to grow in a large room, even though a closet might be enough to support my use. My excess goes to the buyers' clubs. I grow up to five different varieties. This means my room is not totally efficient, as space is left empty waiting for laggard plants, but it's worth it to me to have the variety.

I use the same method I did in the early '80s, but have been making evolutionary improvements. I have two four-foot-wide growing areas. One is about 13 feet long and lit by five 600-watt high-pressure sodium lamps. The other is 10 feet long with four 600w lights. I used regular HPS lamps with high-quality, very bright, open reflectors. I kept them about 2-1/2 feet above the top of the canopy.

The room is cooled using a central air conditioner and ventilation fans. The air is enriched using CO₂ at approximately 1500 PPM. I use CO₂ generators burning natural gas supplied by a gas line. During most of the growth period, ventilation was enough to keep the humidity in normal range. During the last two weeks of flowering, I put a portable dehumidifier in the room. It removed more than a gallon of water a day from the air. This kept the humidity down, so that mold ruined less than 3% of total production.

Since the fertilizer experiment, I started using the brighter 600-watt lamps, the new bulbs that emit more blue light. Also, I converted the reflectors to air-cooled. It was quite easy. I installed the glass and special plates that fit on the reflector vents, and then attached 4" accordion duct tubing to the sheet metal tube portion of





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Each plant has four or five leads, encouraging larger buds on the remaining branches. Harvest time!

the reflector plate. A fan blows air through the assembly. Most of the heat is vented out of the house, and never gets into the room. During the winter, I'm planning to use the 5 kilowatts worth of heated air to warm the house.

I grow in 12" containers in my special planting mix, which is based on Ed's recipe of vermiculite, perlite, coir and worm castings. I've added a lot of minerals, such as rock phosphate, granite dust, ground clay and several guanos. Since I read about commercially available microorganisms, I use several types to protect the roots from parasites and pathogens and to enhance nutrient uptake.

When I first started cultivating, I would let the plants grow for a month, then flower them. Eight to 10 weeks later, I harvested the main branch and lots of smaller buds. Now I'm a convert to plant pruning. I trim each plant to a maximum of six leads. I lose a little weight, but the quality of the bud more than makes up for it. I love the big fat colas on each of those monster branches. The fat colas are also much easier to manicure.

I started the fertilizer experiment with slightly larger clones. I let them grow in their new containers for about two weeks. Then I pruned them back to four branches and the central lead. I chose the largest leads and eliminated all the others. I made sure that the plant was well balanced, with a branch on each of the four sides. Then, for each lead, I pushed a bamboo stake into the ground and used twist ties to hold the branch upright. A friend used the trimmed branches to make clones for the buyers' clubs. I kept the plants in vegetative for another two weeks, so the remaining branches had a chance to grow. Then I forced the

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plants to flower.

I placed 96 12" pots in my system. That's a lot of planting mix to make up, but I love my mix and won't use anything else. Its nutrients support the plants for the first month. When I forced the plants to flower, I started adding water/nutrient solution.

The purpose of the experiment was to see which fertilizer performed best under the conditions in my system. I was interested in two things, the quality and quantity of the buds. Since the planting mix I made contained a lot of nutrients, the experiment did not prove which fertilizer is best under any conditions, just which one works best under the specific conditions in this growing space.

I've tried many different fertilizers. Some worked better than others. However, I never tried all the fertilizers in the room at the same time. I thought this would be a more controlled experiment. I divided the room into eight sections of three rows, each four containers deep. Each of the fertilizers was used in 12 containers.

We chose two strains available from one of the medical-marijuana buyers' clubs here in the San Francisco Bay Area. J2 is an *indica* hybrid with a slightly musky smoke; M39 is an *indica-sativa* hybrid that grows more like an *indica* and smokes more like a *sativa*. The J2 takes about eight weeks and is a heavy producer of *indica*-hybrid-quality smoke. The M39 also takes about eight weeks. It tends to stay

short and is an ideal variety for Sea of Green systems. Both varieties are popular among growers because they perform well under most indoor and greenhouse conditions.

I chose eight fertilizers that could be added to the water to make a water-nutrient solution:

Bat Guano 1-10-0 is a dry powder which is boiled to make it soluble. The solution is cooled to room temperature before use. Organic.

Bill's 6.5-11-5 (available from Spray-N-Grow [800] 288-6505) is a fish-emulsion type with added nutrients. Partially organic.

Dyna-Bloom 3-12-9 is a one-part liquid hydroponic fertilizer. Chemical.

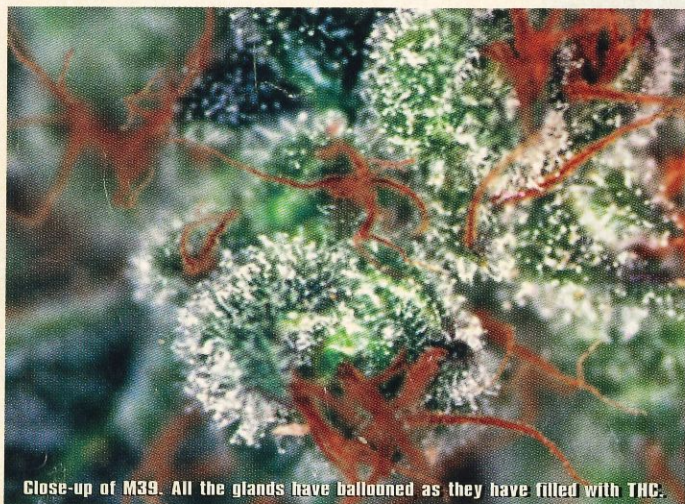
General Hydroponics is a three-part hydroponic fertilizer, but I used only the bloom and micro. Chemical.

Genesis is a three-part hydroponic fertilizer. I used only the bloom and micro. Chemical.

Max-Sea Bloom is a dry, soluble fertilizer with added kelp. Partially organic.

Miracle-Gro 15-30-15 is a water-soluble fertilizer. Chemical.

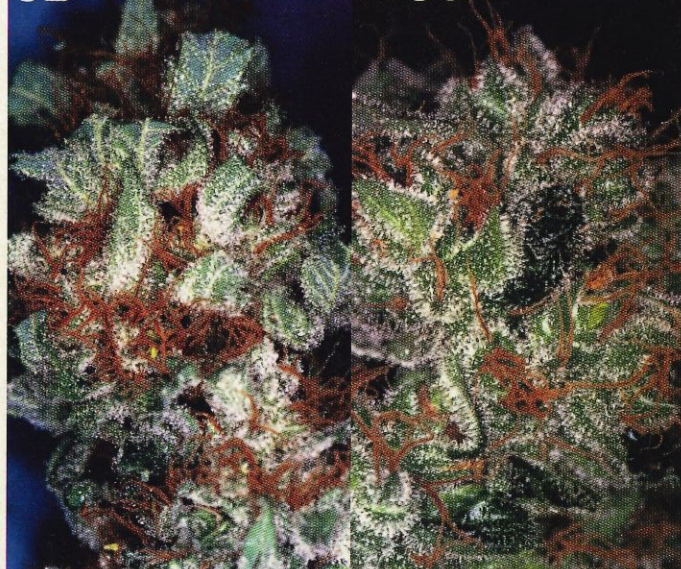
Wonder-Bloom is a private-label fertilizer with methanol added. It is marketed to orchid growers in California. Chemical.



Close-up of M39. All the glands have ballooned as they have filled with THC.

J2

M39



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Fertilizer	Comments on J2	Comments on M39
Bat guano:	Smooth; full taste; pleasant sensation; feel it on upper palate; taste of burned pizza; neutral.	Initially smooth, but felt harsh on the back of the throat; fruity bouquet.
Bill's:	Smooth; not harsh; light harshness in the back of throat; bland; full taste; not harsh or heavy.	Good going in, good going out; very nice; felt like a hit in the head.
Dyna-Bloom	Good; smooth; no harshness; prolonged irritation; tingling on the tongue; fine.	Fragrant; expands slowly; sour like tobacco; slight tingling on the lips; coughy; irritates nose and throat.
Genesis	Harsh; coughy; many people floored; expansive, tasted dusty.	Dry; smooth in and out; minty; piney aftertaste.
Max-Sea	Harsh; no standout; devoid of taste; pinpricks on the tongue, back of throat; chemical taste.	Very smooth in and out; doesn't stand out in flavor.
Miracle-Gro	Harsh on back of throat; good; bitter; fine.	Hot; sour; easy going down but heavy once it gets there.
Wonder-Bloom	Harsh; wouldn't give it to my mother; green like a shamrock; harshest; forgettable; unimpressive.	Funky taste; expands lungs; burns; lingering sensation in the back of the throat.
General Hydro	Light; nothing to rave about.	Sweet; light; expanding; coughy; chalky in the back of the throat.
Judges Votes	E: Dyna, nothing else EN: Dyna, Max-Sea, bat guano J: Max-Sea, Dyna, Miracle JO: Dyna, bat guano, Miracle M: Bill's, Dyna, Wonder T: bat guano, Max-Sea, Bills TF: Dyna, Miracle, Bill's	E: Bill's, Max, Miracle EN: Bill's, Dyna, Max J: Bill's, Max, Miracle JO: Bill's, Dyna, Genesis/Miracle (tied for 3rd) T: Dyna, Genesis, Miracle TF: Dyna, Bill's, Max
Final Score I counted each first-place vote as 3 points, second as 2 points and third as 1.	Dyna-Bloom: 15 Max-Sea: 7 Bat guano: 6 Bill's: 5 Miracle-Gro: 4 Wonder-Bloom: 1	Bill's: 17 Dyna: 9 Max: 7 Miracle: 2 1/2 Genesis: 1 1/2