

What to Grow?

Data-Based Strain Evaluation vs. Strain Names

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All Cannabis strains have names. If all strains had unique properties there would by now be thousands of different ones. New strains are created all the time. So, do the names really have (unique) strains?

Deciding what strains to grow and acquire determines whether the flower will be in demand and what price it can fetch. How to pick the best ones?

Commercial grow operations I worked in had at times more than one hundred strains, up to 160 when pheno-hunting. All of these had to pass through tissue culture and be tested for Hop Latent Viroid (HLVd) on a regular basis.

An earlier study based on the statistical analysis of over 2,600 flower samples from a Nevada testing laboratory had shown that the strains could best be grouped based on their terpene profiles. Most of the samples were separated into only three groups, with some outliers. This showed that there was very little variety within the 396 strains.

[Read the study.](#)

I used data compiled from METRC and Confident Cannabis to document the performance of strains we grew. Two tables at

the end of the document show harvest data and testing results for seventy-six strains (1,563 total test results). Excluded were siblings of strains grown from seed to maximize variety. I also numbered the strains to maintain confidentiality and added color codes for easier viewing.

All strains were Type 1 (high THC, low CBD), with less than 0.2% CBDa. As in the published work, using the terpene profiles was best to group the samples.

When we grouped the strains by the most abundant terpene combinations we again found that most of the strains fit into 3 groups: 83% of the strains for combining the most abundant two terpenes and 76% for combining the most abundant three (see table). In effect, we were growing many strains with very similar terpene and cannabinoid profiles.

2 most abundant Terp.s		# of Strains	% of Strains	3 most abundant Terp.s			# of Strains	% of Strains
beta_caryophyllene	delta_limonene	31	41	delta_limonene	beta_caryophyllene	beta_myrcene	34	45
beta_caryophyllene	beta_myrcene	20	26	delta_limonene	beta_caryophyllene	linalool	14	18
beta_myrcene	delta_limonene	12	16	delta_limonene	beta_caryophyllene	alpha_humulene	10	13
alpha_pinene	beta_myrcene	3	4	beta_caryophyllene	beta_myrcene	alpha_humulene	4	5
beta_caryophyllene	alpha_humulene	3	4	delta_limonene	beta_myrcene	linalool	4	5
alpha_humulene	delta_limonene	2	3	alpha_pinene	beta_myrcene	beta_caryophyllene	3	4
delta_limonene	linalool	2	3	delta_limonene	beta_myrcene	alpha_pinene	2	3
alpha_pinene	delta_limonene	1	1	beta_caryophyllene	alpha_bisabolol	alpha_humulene	1	1
beta_caryophyllene	alpha_bisabolol	1	1	beta_myrcene	linalool	beta_caryophyllene	1	1
beta_myrcene	linalool	1	1	delta_limonene	alpha_humulene	beta_myrcene	1	1
				delta_limonene	beta_caryophyllene	valencene	1	1
				delta_limonene	beta_myrcene	beta_pinene	1	1
Total:		76		Total:			76	

Strains grouped by the most abundant terpenes.

Collecting and maintaining a large variety of strains is tempting but is it necessary? Keeping strains with very similar terpene profiles makes little sense considering the need for mom room space and care. Selecting the best ones of each terpene profile group based on yield, potency, flower appearance and resistance keeps the number to be maintained manageable while still having a genuine variety on offer.

Keeping fewer strains requires taking the best possible care of the mothers. Replacing them on a regular basis with tissue culture copies and smart qPCR testing for virus and viroid infection help maintaining a vigorous and consistent genetic stock. Good trimming, curing and packaging will then produce a quality product that customers will appreciate.

Learn more about keeping your valuable strains healthy at <https://tcworkslab.com/>.

Strain	# of Samples	oz /Plant		Max g Dry/ft2
		THC Max	Max	
PST #1	1	19.2	18.3	n/a
PST #2	166	29.7	18.8	93.5
PST #3	4	22.5	20.5	106.3
PST #4	8	23.3	19.6	102.5
PST #5	76	28.3	17.4	88.2
PST #6	43	25.3	18.3	93.0
PST #7	165	35.2	21.8	108.0
PST #8	8	27.5	21.0	103.6
PST #9	3	28.6	19.6	95.2
PST #10	3	26.3	9.8	48.7
PST #11	1	19.5	13.6	n/a
PST #12	10	19.9	16.9	73.4
PST #13	163	30.0	22.2	89.3
PST #14	8	21.8	17.4	86.3
PST #15	88	25.7	19.9	102.8
PST #16	4	23.4	14.6	72.7
PST #17	3	22.6	17.5	n/a
PST #18	6	23.4	15.7	82.3
PST #19	17	28.5	19.4	99.7
PST #20	33	25.8	17.9	77.8
PST #21	93	33.8	20.1	103.8
PST #22	40	26.6	18.9	95.7
RDST #1	175	29.5	22.0	101.5
RDST #2	140	30.0	19.1	80.0
RDST #3	92	28.9	19.0	91.2
RDST #4	108	29.8	20.9	78.3
RDST #5	2	20.8	n/a	n/a
RDST #6	5	18.1	20.7	89.9
RDST #8	1	20.2	15.4	62.4
RDST #7	4	23.1	19.1	92.9
RDST #9	9	21.3	14.7	n/a
RDST #10	1	17.8	n/a	n/a
RDST #11	1	18.7	n/a	n/a
RDST #12	1	15.3	14.3	n/a
RDST #13	3	21.4	n/a	n/a
RDST #14	1	23.7	19.5	n/a
RDST #15	2	15.8	19.5	88.9
RDST #16	1	19.7	19.0	86.4
RDST #17	1	27.7	n/a	n/a
RDST #18	2	17.3	n/a	n/a
RDST #19	2	18.6	n/a	n/a
RDST #20	3	21.2	18.6	80.9
RDST #21	3	20.5	n/a	n/a
RDST #22	1	15.0	n/a	n/a
RDST #23	1	18.2	n/a	n/a
RDST #24	1	19.6	12.7	57.9
RDST #25	1	16.7	9.4	n/a
RDST #26	2	22.5	n/a	n/a
RDST #27	1	28.6	19.6	95.2
RDST #28	2	19.5	n/a	n/a
RDST #29	1	13.8	n/a	n/a
RDST #30	2	20.4	n/a	n/a
RDST #31	4	24.3	16.1	70.2
RDST #32	1	10.4	n/a	n/a
RDST #33	1	16.6	n/a	n/a
RDST #34	1	18.5	15.1	68.9
RDST #35	2	28.4	22.1	104.5
RDST #36	2	16.1	15.5	76.2
RDST #37	1	19.9	16.9	73.4
RDST #40	2	14.8	n/a	n/a
RDST #38	1	22.9	19.6	89.1
RDST #39	1	17.9	15.9	n/a
RDST #41	2	20.8	14.0	67.7
RDST #42	1	21.8	17.4	86.3
RDST #43	3	18.4	n/a	n/a
RDST #44	1	20.8	n/a	n/a
RDST #45	1	18.0	14.4	n/a
RDST #46	4	22.1	19.2	77.8
RDST #47	1	10.0	n/a	n/a
RDST #48	1	25.8	22.6	103.1
RDST #49	1	24.3	21.6	98.2
RDST #50	1	10.8	n/a	n/a
RDST #51	1	22.1	23.7	107.9
RDST #52	3	23.5	19.8	n/a
RDST #53	2	16.0	17.1	n/a
RDST #54	12	31.5	18.8	96.5
RDST #55	1	19.2	n/a	n/a

