FLOWSNIPER RESEARCH

The Yield Illusion

Bittensor Alpha Staking vs Root Staking: A 90-Day Data Audit Across 127 Subnets

Data window: March 12 - June 10, 2026
Sources: Taostats API, independently verified against a self-operated Bittensor mainnet node

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Every number in this report is measured from on-chain data and reproducible from the public Taostats API. Methodology, limitations, and the complete per-subnet dataset are included.

Executive Summary

A common pitch in the Bittensor ecosystem claims that staking subnet alpha tokens, with marketed yields of 50% APY and higher, is superior to staking TAO on the root network at single-digit yields. This report tests that claim against 90 days of chain data covering 127 subnets, using measured validator yields rather than theoretical emission math.

The claim does not survive contact with the data.

54%	-7.2%	73%	24%
Median marketed APY (alpha-denominated)	Median realized 30-day return (TAO-denominated)	of subnets lost money in TAO over 30 days	of subnets beat root staking

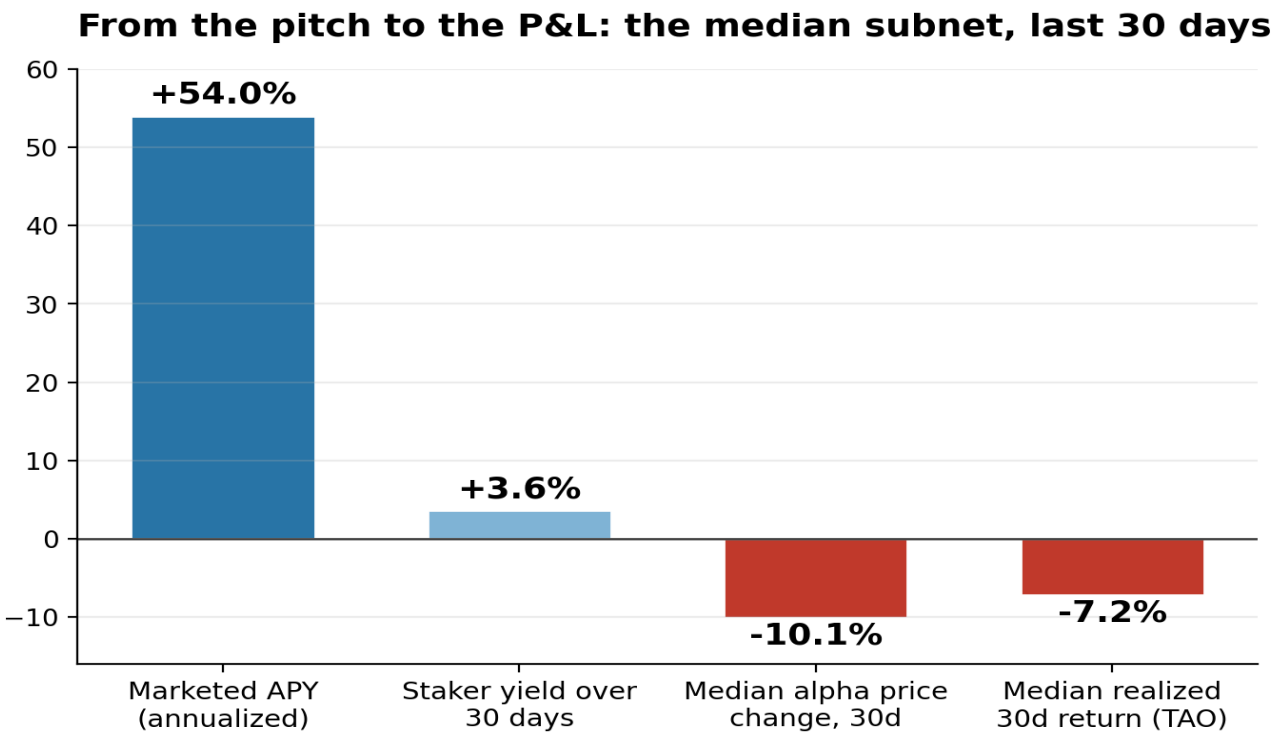

Figure 1. The path from the marketed number to the realized outcome for the median subnet over the most recent 30 days.

Key findings

1. Over the most recent 30 days, the median subnet returned **-7.2% in TAO terms** against a median marketed APY of 54%. 93 of 127 subnets (73%) lost money outright; only 31 (24%) beat root staking, which returned +0.65% over the same window.

2. The pattern holds at every horizon measured. Across 7, 10, 21, 30, 60, and 90-day windows, fewer than half of subnets ever beat root, and the median TAO-denominated return was negative in all six.

3. The staker yield is redistributed inflation, not income. The median subnet's alpha supply grew **4.7%** over 30 days while a staker's alpha balance grew **3.6%**. Staking does not even fully keep pace with the dilution it is meant to compensate for.

4. Marketed APY has no predictive relationship with realized return (correlation near zero). Several of the highest-APY subnets posted the worst losses.

5. Where alpha staking did win, the wins came from alpha price appreciation, not yield. Among the top five performers, the 30-day staker yield contributed 3 to 9 percentage points; price moves contributed 89 to 238.

Terminology

Yield discussions in this ecosystem routinely blur distinct quantities. This report uses the following terms exactly and exclusively.

Term	Definition
Alpha price (in TAO)	The subnet token's AMM pool price, expressed as TAO per alpha. All price changes in this report are this quantity.
Alpha supply growth	Percentage increase in the subnet's total issued alpha over the window. This is the dilution rate.
Staker yield (alpha-denominated)	Growth of a nominator's staked alpha balance over the window, compounded daily from measured validator APY, net of validator take.
Marketed APY	The annualized version of the staker yield. This is the number quoted in promotional material.
Realized return (TAO-denominated)	Staker yield combined with the alpha price change: (1 + staker yield) x (price end / price start) - 1. The number an investor actually experiences.
Root return (TAO-denominated)	The return from staking TAO on the root network (netuid 0) with the same validator over the same window.
TAO/USD	Deliberately excluded. It multiplies both strategies identically and cancels out of every comparison in this report.

The comparison framework

One TAO converted to alpha and staked at the start of a window changes value through two channels: the alpha balance compounds at the staker yield, and the alpha price (in TAO) moves. The realized return is their product:

```
realized return = (1 + staker yield) x (P_end / P_start) - 1
```

For alpha staking to beat root, this product must exceed the root return over the same window. A median marketed APY of 54% compounds to roughly 3.6% over 30 days, and the measured root return was +0.65%. The alpha price therefore needed to fall by less than about 2.9% over the month for alpha staking to stay ahead. The median subnet's alpha price fell 10.1%. That gap is the entire story of this report.

Results by time window

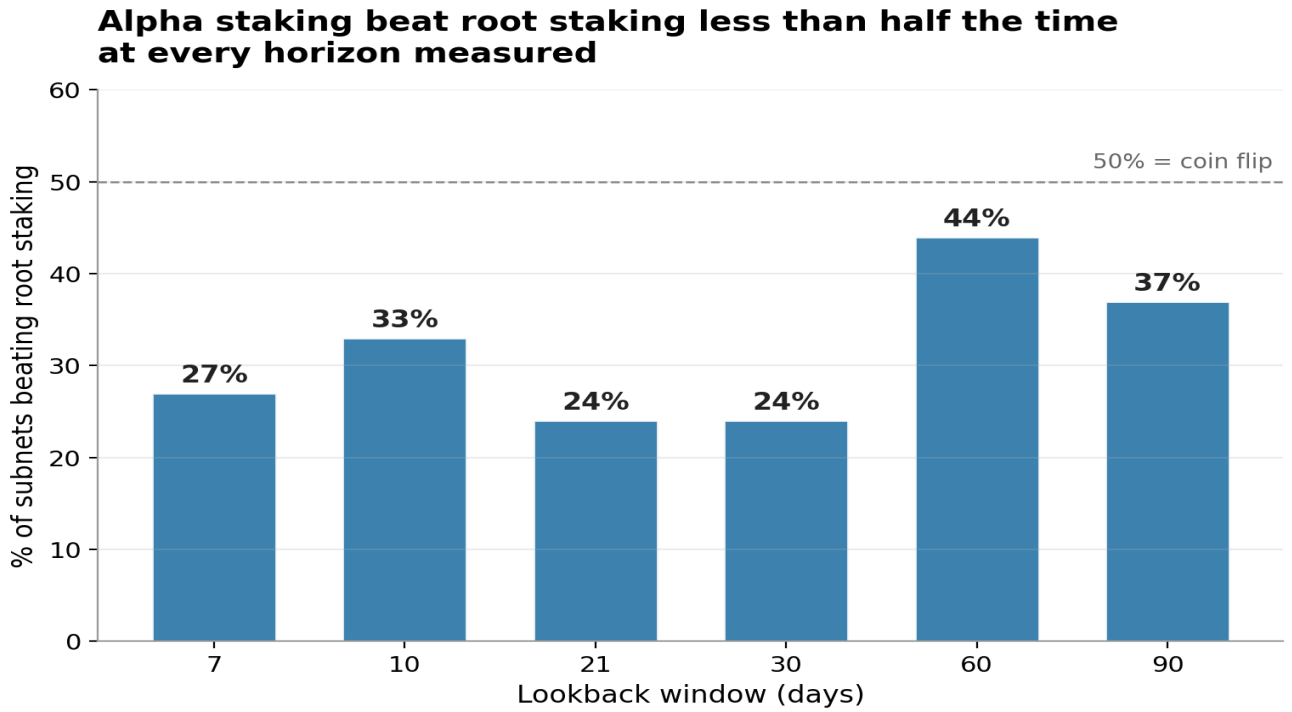

Figure 2. Share of subnets whose realized TAO-denominated return exceeded the measured root return, by lookback window ending June 10, 2026.

Win.	Subnets	Median marketed APY	Alpha supply growth	Alpha price change	Realized return (TAO)	% beat root	Root return (measured)
7d	127	53.8%	1.1%	-4.7%	-3.9%	27%	+0.15%
10d	127	52.6%	1.6%	-5.5%	-4.2%	33%	+0.22%
21d	127	53.2%	3.3%	-8.1%	-5.4%	24%	+0.44%
30d	127	54.0%	4.7%	-10.1%	-7.2%	24%	+0.65%
60d	126	54.4%	9.7%	-9.5%	-2.9%	44%	+1.38%
90d	126	56.0%	15.5%	-17.0%	-8.8%	37%	+2.09%

Fewer than half of subnets beat root at every horizon. The 7, 21, and 30-day windows, the horizons most relevant to a decision made today, cluster around one in four. The 60 and 90-day figures improve modestly because the earlier portion of those windows captured higher alpha prices, and because subnets that deregistered during the period are absent from the data entirely (see Limitations).

Where the staker yield actually comes from

The marketed APY is paid in newly emitted alpha. Each subnet's token supply inflates block by block, and stakers receive a share of that emission. The yield is therefore not income generated by the subnet; it is a redistribution of dilution. Three medians tell the whole story.

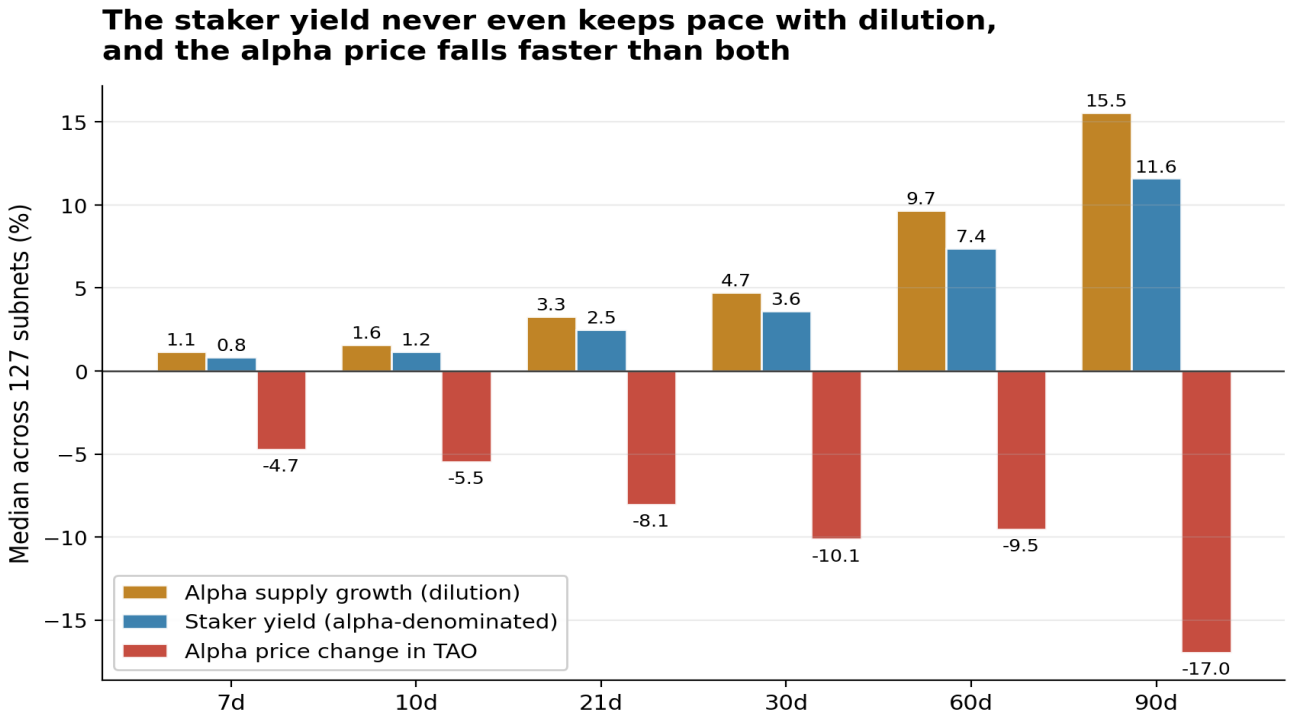

Figure 3. Median alpha supply growth, staker yield, and alpha price change across 127 subnets, by window. The staker yield tracks below supply growth at every horizon while the alpha price falls faster than both.

At 30 days, the median subnet's alpha supply grew 4.7% while a staker's balance grew 3.6%. A staker's *share of the network* therefore shrank even before considering price. Holding unstaked alpha is strictly worse: full dilution, no yield. And the alpha price (in TAO) fell 10.1%, more than double the yield, because the same emissions that fund the APY create continuous sell pressure from miners, validators, and owners converting alpha to TAO.

This is the mechanical reason the pitch fails: the headline APY and the price decline are not independent quantities. They are the same emission stream measured from two different angles.

The 30-day window in detail

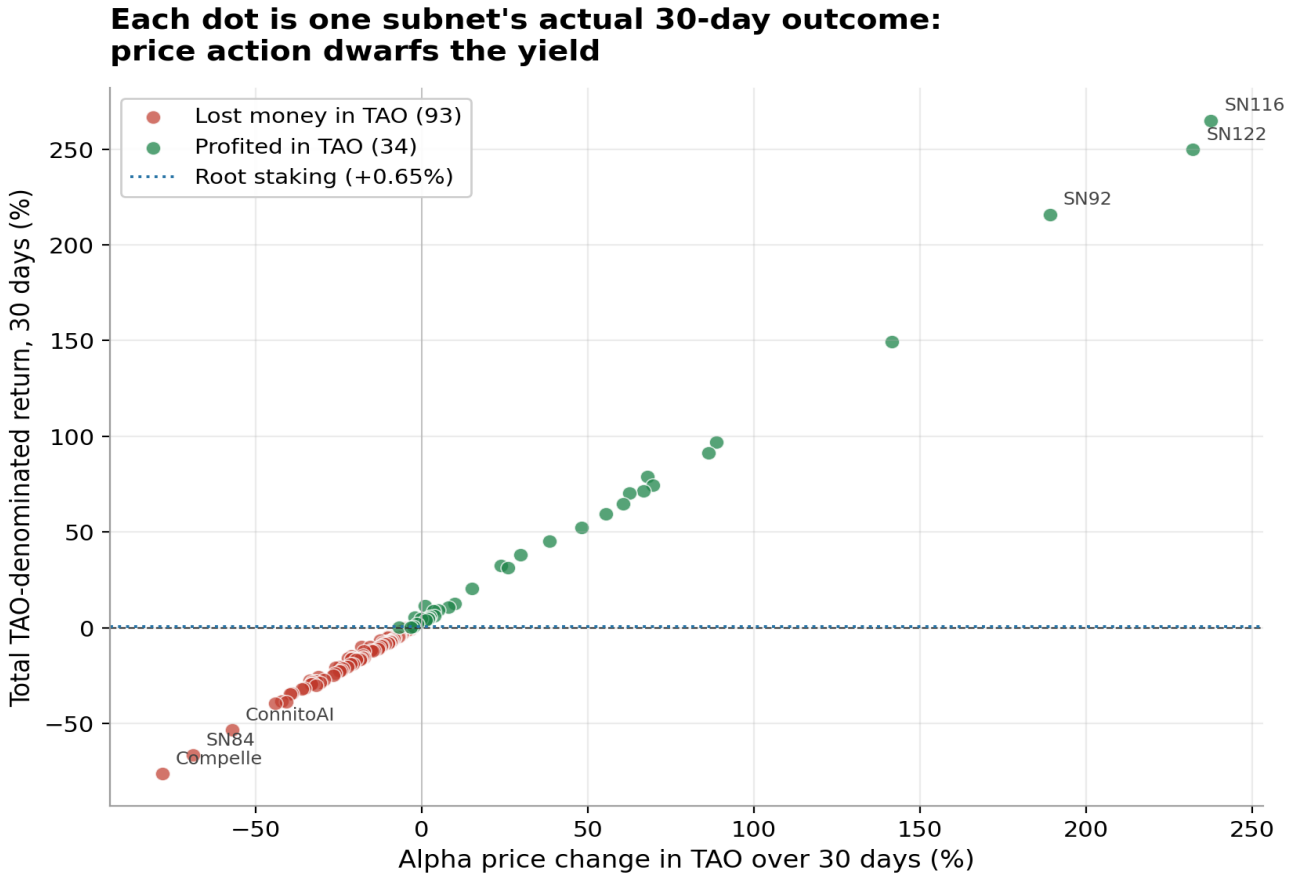

Figure 4. Each dot is one subnet's realized 30-day outcome. The vertical spread above the diagonal contribution of price is the staker yield: a few percentage points at most.

The realized return is dominated by the alpha price axis. The staker yield lifts every dot a few points above where price alone would put it, and that lift is rarely decisive. Almost everything left of the vertical zero line is a loss, and three quarters of all dots sit below the root staking line.

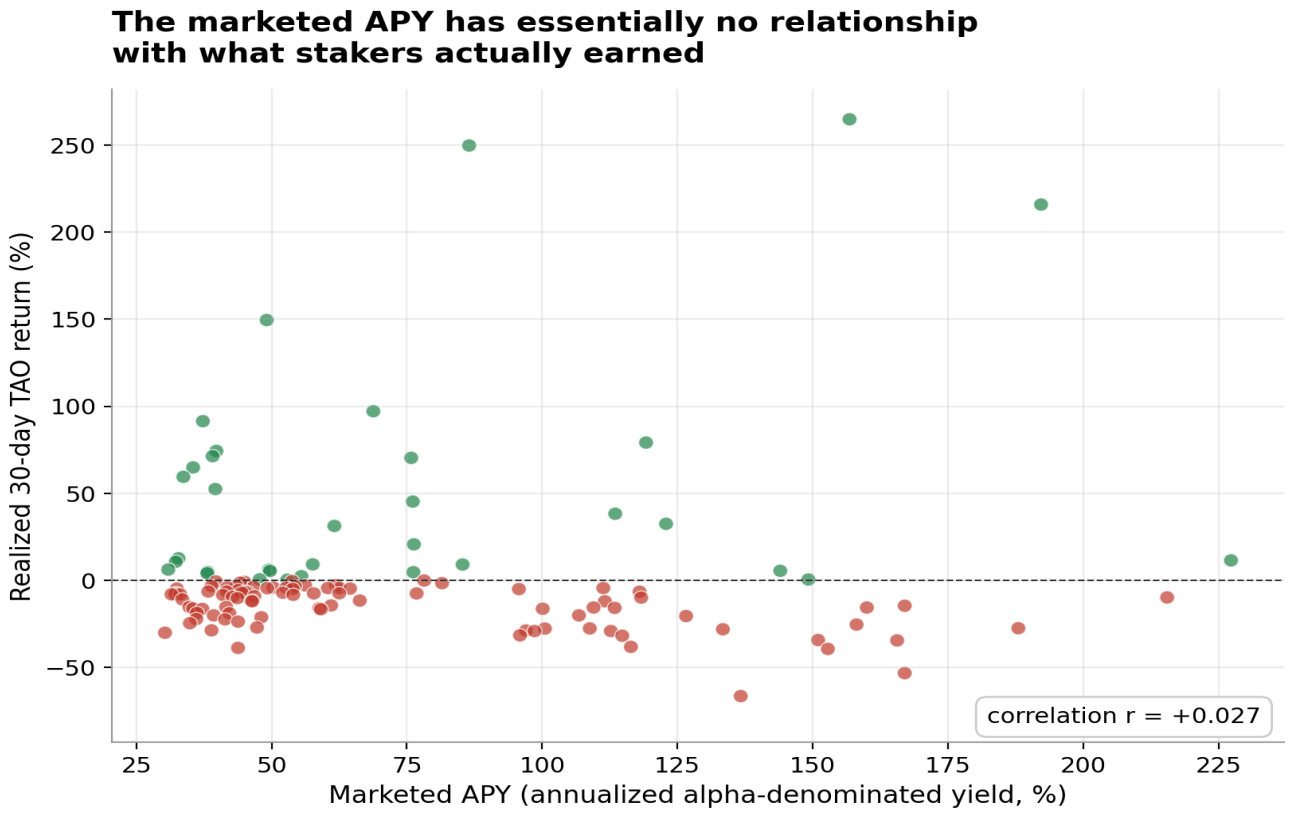

Figure 5. Marketed APY against realized 30-day return. If the pitch were sound, this cloud would slope upward. It does not.

The five best and five worst outcomes (30 days)

Best performers

Subnet	Name	Marketed APY	Alpha price change	Realized return (TAO)	Excess vs root
SN116	-	156.8%	+237.7%	+264.9%	+264.3%
SN122	-	86.5%	+232.3%	+249.8%	+249.1%
SN92	-	192.2%	+189.2%	+215.9%	+215.2%
SN118	Ditto	49.1%	+141.5%	+149.5%	+148.9%
SN110	Green Compute	68.8%	+88.8%	+97.1%	+96.4%

Worst performers

Subnet	Name	Marketed APY	Alpha price change	Realized return (TAO)	Excess vs root
SN82	Compelle	184.0%	-78.1%	-76.2%	-76.8%
SN84	-	136.7%	-68.9%	-66.6%	-67.2%
SN102	ConnitoAI	167.0%	-57.0%	-53.4%	-54.0%
SN76	Byzantium	152.8%	-44.0%	-39.5%	-40.2%
SN29	Coldint	43.8%	-40.7%	-38.9%	-39.5%

The decomposition is the point. The winners earned 97 to 265 percent, of which the staker yield contributed three to nine percentage points; the rest was alpha price appreciation. The losers carried comparable yields against price declines of 40 to 78 percent. In both directions, alpha staking behaved as a leveraged-feeling price bet with a small yield attached, not as a yield product. An allocator who wants subnet price exposure can express that view directly; the APY is not a reason to.

By market capitalization quartile (30 days)

Quartile	Subnets	Median realized return (TAO)	% beating root
Q1 (smallest)	33	-15.9%	18%
Q2	31	-7.5%	6%
Q3	32	-2.4%	44%
Q4 (largest)	31	-6.5%	29%

Losses are not confined to illiquid small-caps. Every quartile posted a negative median realized return, including the largest subnets by market capitalization.

Robustness checks

Across validators

Headline figures use tao.bot, the largest root validator, whose 0% take eliminates fee confounding and which validates on all 129 subnets including root. Repeating the analysis with two other major validators, at 9% and 18% take read directly from chain state, does not change the conclusion.

Validator (take)	Subnets covered	Median realized 30d return (TAO)	% positive
tao.bot (0%)	128	-7.8%	28%
Kraken (18%)	121	-8.2%	26%
Yuma (9%)	127	-8.0%	28%

Against a fixed hurdle

Substituting a fixed 12% annualized root assumption for the measured root return moves the share of subnets beating the hurdle by at most one percentage point in any window. The result is insensitive to how the root hurdle is specified.

Methodology

Data sources. All historical series pulled from the Taostats API: daily pool snapshots (alpha price in TAO, total alpha supply, alpha staked) from /api/dtao/pool/history/v1 and daily validator nominator APY from /api/dtao/validator/yield/history/v1, covering the 95 days ending June 10, 2026. Subnet identities from /api/subnet/identity/v1.

Independent verification. A self-operated Bittensor mainnet node (production build, finney) was queried for current chain state. Across 128 subnets, the median difference between the Taostats end-of-day snapshot and live chain pool price was 1.43%, fully attributable to the 0-to-24-hour gap between snapshot time and query time. Validator take rates were read directly from on-chain Delegates storage rather than assumed.

Staker yield. Daily nominator APY values, which are net of validator take, are converted to daily compounded rates via (1 + APY)^(1/365) - 1 and compounded across each window. Windows require at least 80% of expected yield days; partial coverage is geometrically scaled. The headline series uses tao.bot exclusively (0% take, full subnet coverage).

Root hurdle. The primary hurdle is the measured return of the same validator staking netuid 0 over the identical window, controlling for take, operator, and infrastructure. A fixed 12% annualized assumption serves as a secondary check.

Alpha supply growth. Computed from the change in total issued alpha between the snapshots nearest each window's endpoints.

Coverage

Of 129 active subnets at the analysis end date, 128 are non-root. Coverage by window: **127 of 128 subnets at 7-30 days** and **126 of 128 at 60-90 days**. The exclusions are deliberate and named: subnet 104 ("for sale - burn to uid1") is abandoned, with insufficient validator data across all windows (10 of 30 valid days at the 30-day horizon). Subnet 96 (Verathos) joined the validator's coverage window on April 25, 2026, satisfying the 30-day window but falling below the 80% coverage threshold for 60 and 90 days.

Outlier flag. Subnet 96 (Verathos) recorded +235% alpha supply growth over the 30-day window, approximately 50 times the median across all subnets. This reflects a one-time stake migration or stake-conversion event rather than ordinary block emission. Verathos is included in every per-subnet figure and aggregate. Because all aggregates in this report use medians rather than means, the outlier does not distort the headline numbers.

Limitations

Survivorship. Subnets that deregistered during the 90-day window are absent from the dataset. Their inclusion would make every aggregate worse. The results here are therefore a conservative upper bound on the aggregate alpha staking experience, which strengthens rather than weakens the conclusion.

Costs not modeled. AMM slippage on entry and exit, trading fees, and unstaking mechanics are excluded. All are costs borne by the alpha staker and not by the root staker; including them would further widen the gap.

Window dependence. All windows end June 10, 2026. A period of broad alpha price appreciation would produce friendlier numbers; the five best performers show what that looks like. The structural finding, that realized returns are dominated by alpha price action and that the yield does not outpace dilution, is window-independent.

Appendix: complete per-subnet results, 30-day window

Sorted by realized TAO-denominated return, best to worst. Subnets without an on-chain name are shown by netuid only.

Subnet	Name	Marketed APY	Staker yield (30d, alpha)	Alpha price change	Realized return (TAO)	Beats root
SN116	-	156.8%	8.06%	+237.7%	+264.9%	yes
SN122	-	86.5%	5.26%	+232.3%	+249.8%	yes
SN92	-	192.2%	9.21%	+189.2%	+215.9%	yes
SN118	Ditto	49.1%	3.34%	+141.5%	+149.5%	yes
SN110	Green Compute	68.8%	4.40%	+88.8%	+97.1%	yes
SN23	Trishool	37.3%	2.64%	+86.5%	+91.4%	yes
SN38	colosseum	119.2%	6.66%	+67.9%	+79.1%	yes
SN111	oneoneone	39.8%	2.79%	+69.6%	+74.3%	yes
SN77	Liquidity	39.1%	2.75%	+66.7%	+71.3%	yes
SN95	Actual	75.8%	4.75%	+62.6%	+70.3%	yes
SN28	gm	35.5%	2.53%	+60.7%	+64.8%	yes
SN18	Zeus	33.7%	2.41%	+55.6%	+59.4%	yes
SN9	iota	39.6%	2.78%	+48.2%	+52.4%	yes
SN14	Cacheon	76.1%	4.76%	+38.6%	+45.2%	yes
SN114	SOMA	113.5%	6.43%	+29.8%	+38.2%	yes
SN107	Minos	122.9%	6.81%	+23.9%	+32.4%	yes
SN83	CliqueAI	61.6%	4.02%	+26.1%	+31.2%	yes
SN105	Beam	76.3%	4.77%	+15.1%	+20.6%	yes
SN46	Zipcode	32.8%	2.36%	+10.0%	+12.6%	yes
SN91	Bitstarter #1	227.3%	10.24%	+1.1%	+11.4%	yes
SN59	Babelbit	32.3%	2.33%	+8.1%	+10.6%	yes
SN33	ReadyAI	57.6%	3.81%	+5.1%	+9.1%	yes
SN49	Nepher Robotics	85.3%	5.20%	+3.6%	+9.0%	yes
SN79	MVTRX	30.9%	2.24%	+3.8%	+6.1%	yes
SN41	Almanac	49.5%	3.36%	+2.5%	+6.0%	yes
SN101	-	144.0%	7.61%	-2.1%	+5.4%	yes
SN10	Swap	49.7%	3.37%	+1.9%	+5.3%	yes
SN68	NOVA	38.2%	2.70%	+2.0%	+4.8%	yes
SN39	deprecated	76.2%	4.77%	-0.1%	+4.6%	yes

Subnet	Name	Marketed APY	Staker yield (30d, alpha)	Alpha price change	Realized return (TAO)	Beats root
SN30	Endure Network	38.1%	2.69%	+1.2%	+4.0%	yes
SN48	Quantum Compute	55.5%	3.69%	-1.3%	+2.3%	yes
SN63	Enigma	47.8%	3.26%	-2.6%	+0.5%	no
SN126	Poker44	149.2%	7.79%	-6.8%	+0.4%	no
SN11	TrajectoryRL	52.9%	3.55%	-3.2%	+0.3%	no
SN112	minotaur	78.2%	4.86%	-4.8%	-0.2%	no
SN34	BitMind	53.8%	3.60%	-4.0%	-0.5%	no
SN128	ByteLeap	39.7%	2.79%	-3.4%	-0.7%	no
SN45	Talisman AI	45.0%	3.10%	-4.0%	-1.0%	no
SN43	Graphite	44.2%	3.06%	-4.4%	-1.4%	no
SN81	deprecated	81.5%	5.02%	-6.4%	-1.7%	no
SN106	Nodexo	61.9%	4.04%	-6.7%	-2.9%	no
SN52	Dojo	56.2%	3.73%	-6.5%	-3.0%	no
SN60	Bitsec.ai	38.9%	2.74%	-5.9%	-3.3%	no
SN53	EfficientFrontier	43.5%	3.01%	-6.2%	-3.3%	no
SN123	MANTIS	54.3%	3.63%	-6.8%	-3.4%	no
SN8	Vanta	46.7%	3.20%	-6.7%	-3.8%	no
SN2	DSperse	41.8%	2.91%	-6.8%	-4.1%	no
SN124	Swarm	50.3%	3.41%	-7.3%	-4.2%	no
SN20	GroundLayer	52.7%	3.54%	-7.6%	-4.3%	no
SN25	Mainframe	62.5%	4.07%	-8.2%	-4.5%	no
SN125	8 Ball	111.3%	6.34%	-10.2%	-4.5%	no
SN1	Apex	60.4%	3.96%	-8.2%	-4.5%	no
SN89	InfiniteHash	49.2%	3.34%	-7.7%	-4.6%	no
SN71	Leadpoet	32.5%	2.34%	-7.0%	-4.8%	no
SN121	sundae_bar	64.5%	4.17%	-8.7%	-4.8%	no
SN13	Data Universe	53.9%	3.61%	-8.3%	-5.0%	no
SN80	dogelayer	95.7%	5.67%	-10.2%	-5.1%	no
SN40	Chunking	43.8%	3.03%	-8.4%	-5.7%	no
SN72	StreetVision by NATIX	41.7%	2.91%	-9.1%	-6.5%	no
SN4	Targon	38.3%	2.70%	-9.0%	-6.5%	no
SN109	Academia	118.0%	6.61%	-12.4%	-6.6%	no

Subnet	Name	Marketed APY	Staker yield (30d, alpha)	Alpha price change	Realized return (TAO)	Beats root
SN21	AdTAO	45.5%	3.13%	-9.5%	-6.7%	no
SN37	Aurelius	45.1%	3.11%	-9.7%	-6.9%	no
SN64	Chutes	44.5%	3.07%	-10.0%	-7.2%	no
SN56	Gradients	52.1%	3.50%	-10.4%	-7.2%	no
SN54	Yanez MIID	32.4%	2.34%	-9.5%	-7.4%	no
SN98	ForeverMoney	62.5%	4.07%	-11.1%	-7.5%	no
SN19	blockmachine	57.8%	3.82%	-11.0%	-7.6%	no
SN127	Astrid	76.8%	4.79%	-11.8%	-7.6%	no
SN44	Score	32.2%	2.32%	-10.1%	-8.0%	no
SN7	Allways	33.1%	2.38%	-10.2%	-8.1%	no
SN32	ItsAI	31.5%	2.28%	-10.1%	-8.1%	no
SN73	Parked	54.0%	3.61%	-11.6%	-8.4%	no
SN65	TAO Private Network	41.0%	2.86%	-11.1%	-8.5%	no
SN93	Bitcast	46.8%	3.21%	-12.0%	-9.2%	no
SN12	Compute Horde	42.8%	2.97%	-12.2%	-9.6%	no
SN96	Verathos	215.5%	9.90%	-18.0%	-9.9%	no
SN115	HashiChain	118.3%	6.63%	-15.6%	-10.0%	no
SN42	-	43.7%	3.02%	-13.0%	-10.3%	no
SN35	OxMarkets	33.5%	2.40%	-13.1%	-11.0%	no
SN120	Affine	46.3%	3.18%	-14.4%	-11.7%	no
SN117	-	66.3%	4.27%	-15.3%	-11.7%	no
SN103	Djinn	46.4%	3.18%	-14.8%	-12.1%	no
SN5	Hone	111.6%	6.36%	-17.3%	-12.1%	no
SN22	Desearch	61.0%	3.99%	-17.7%	-14.5%	no
SN67	Harnyx	167.0%	8.41%	-21.3%	-14.7%	no
SN88	Investing	34.8%	2.49%	-17.4%	-15.4%	no
SN6	Numinous	41.6%	2.90%	-17.8%	-15.4%	no
SN31	Recall	109.5%	6.27%	-20.6%	-15.7%	no
SN119	Satori	160.0%	8.17%	-22.1%	-15.7%	no
SN87	unknown	113.4%	6.43%	-21.0%	-15.9%	no
SN51	lium.io	58.8%	3.87%	-19.3%	-16.1%	no
SN55	NIOME	35.5%	2.53%	-18.3%	-16.2%	no

Subnet	Name	Marketed APY	Staker yield (30d, alpha)	Alpha price change	Realized return (TAO)	Beats root
SN100	Plαtform	100.1%	5.87%	-21.1%	-16.4%	no
SN75	Hippius	37.2%	2.63%	-18.6%	-16.5%	no
SN3	deprecated	59.1%	3.89%	-19.8%	-16.7%	no
SN50	Synth	36.2%	2.57%	-20.8%	-18.8%	no
SN17	404—GEN	42.2%	2.93%	-21.4%	-19.0%	no
SN74	Gittensor	39.3%	2.76%	-22.3%	-20.2%	no
SN15	ORO	106.8%	6.15%	-24.8%	-20.2%	no
SN47	EvolAI	126.6%	6.95%	-25.8%	-20.6%	no
SN58	Pending	48.1%	3.28%	-23.8%	-21.3%	no
SN61	RedTeam	36.1%	2.57%	-24.2%	-22.3%	no
SN27	Nodexo	41.4%	2.89%	-24.7%	-22.5%	no
SN85	Vidaio	43.8%	3.03%	-26.1%	-23.8%	no
SN24	Quasar	34.9%	2.49%	-26.6%	-24.7%	no
SN57	-	158.1%	8.10%	-31.1%	-25.5%	no
SN16	BitAds	47.3%	3.24%	-29.5%	-27.2%	no
SN36	Eirel	188.0%	9.08%	-33.7%	-27.6%	no
SN113	TensorUSD	108.8%	6.24%	-32.0%	-27.7%	no
SN108	TalkHead	100.5%	5.88%	-31.9%	-27.8%	no
SN90	-	133.4%	7.22%	-33.0%	-28.2%	no
SN62	Ridges	38.9%	2.74%	-30.7%	-28.8%	no
SN99	Leoma	97.0%	5.73%	-32.8%	-28.9%	no
SN97	Albedo	112.7%	6.40%	-33.5%	-29.2%	no
SN86	■	98.6%	5.80%	-33.1%	-29.2%	no
SN66	ninja	30.3%	2.20%	-31.7%	-30.2%	no
SN69	-	95.9%	5.68%	-35.4%	-31.7%	no
SN94	Bitsota	114.8%	6.48%	-36.0%	-31.9%	no
SN78	Vocence	151.0%	7.86%	-39.2%	-34.4%	no
SN70	NexisGen	165.6%	8.36%	-39.7%	-34.6%	no
SN26	Perturb	116.4%	6.55%	-42.1%	-38.3%	no
SN29	Coldint	43.8%	3.03%	-40.7%	-38.9%	no
SN76	Byzantium	152.8%	7.92%	-44.0%	-39.5%	no
SN102	ConnitoAI	167.0%	8.41%	-57.0%	-53.4%	no

Subnet	Name	Marketed APY	Staker yield (30d, alpha)	Alpha price change	Realized return (TAO)	Beats root
SN84	-	136.7%	7.34%	-68.9%	-66.6%	no
SN82	Compelle	184.0%	8.96%	-78.1%	-76.2%	no

This document is research prepared by FlowSniper Research from public on-chain data. It is not financial advice and no representation is made regarding future performance of any token, subnet, or staking strategy. Bittensor dTAO is a high-volatility ecosystem; all figures are historical and window-dependent. The underlying dataset, SQL tables, and analysis code are retained and available for verification. Contact: research@flowsniper.ai