mOrganic

MORE THAN ORGANIC

INVESTOR BRIEF · FLAVOR SCIENCE · KONA HILLS

Why Flavors From Kona Hills Will Be Different

What “More Than Organic” means on the palate, and the biology behind every difference you can taste.

Prepared for investors in the Kona Hills Syndication · Prepared by AIDAN, Virtual COO for mOrganic and R&D · October 20, 2026

Flavor is chemistry the plant makes for itself. Sugars, acids, aromatic compounds and polyphenols are built from what the soil, water, sunlight and pollinators give a plant, then shaped by how the crop is bred, picked and dried. Industrial farming optimizes each of those steps for yield, shelf life and appearance. At Kona Hills we control every one of them, and we optimize for flavor and nutrient density instead.

That is the meaning of **More Than Organic**. Organic describes what a farm leaves out: synthetic fertilizers and pesticides. More Than Organic describes what we put back: living soil, volcanic minerals, managed bees, a shade canopy, harvest at full ripeness, gentle drying, and a laboratory test of every lot.

55%
more vitamin C in organically grown tomatoes than conventional ones, linked to the mild stress of slower-release nutrition (Oliveira et al., 2013)

~40%
more sugar when a single gene, broken by breeding for uniform color, was restored in a supermarket tomato (Powell et al., 2012)

38.6%
higher commercial value per strawberry from bee pollination than from wind pollination, with longer shelf life (Klatt et al., 2014)

Same seed, different fruit

Plant the same variety in two places and it will not taste the same. The clearest proof is the San Marzano tomato. Grown in the volcanic soil of the Sarno Valley at the foot of Mount Vesuvius, it is sweeter, less acidic and fleshier than its relatives, and only fruit from that valley may carry the protected designation “Pomodoro San Marzano dell’Agro Sarnese-Nocerino.” The European Union protects the name because origin is part of the product.

The same principle defines Kona coffee. The Kona Coffee Belt runs from about 500 to 3,200 feet up the volcanic slopes of Hualālai and Mauna Loa. Its soil is porous, mineral-rich and well drained. Mornings are usually sunny and afternoons bring cloud and rain, so the trees get natural shade every day. Kona Hills holds 1,983 acres inside that belt. The terroir is already world-class. What has held its flavor back is the farming model, and that is what we change.

Five ways soil becomes flavor

Each difference between an industrial crop and a Kona Hills crop traces to a specific biological mechanism.

MECHANISM	INDUSTRIAL PATH	KONA HILLS PATH	WHAT YOU TASTE
1. Living soil	Soluble synthetic fertilizer feeds the plant directly, so it has less reason to trade sugar with soil fungi and bacteria for nutrients.	Compost, biochar and cover crops build a living soil; no synthetic pesticides. Field trials show root fungi and beneficial bacteria shift tomato sugars and acids and raise strawberry pigments when fertilizer is reduced.	Depth and complexity: more of the plant’s own defense compounds, which we perceive as aroma, spice and pleasant bitterness.
2. Concentration, not dilution	High nitrogen and water drive fast, heavy growth. A study of 398 tomato types found bigger fruit carried less sugar, and modern varieties had lost 13 flavor compounds as size rose.	Slower, nutrient-paced growth and measured irrigation build more dry matter per pound of fruit.	Intensity: higher sugar to water, a fuller and sweeter taste.

3. Minerals	Typical programs return three nutrients, nitrogen, phosphorus and potassium, and little else, so trace minerals decline over decades of cropping.	Young volcanic soil plus biochar and compost supply a broad range of minerals. Potassium in particular raises tomato sugar and red pigment.	Balance: sweetness and acidity in proportion, with clean, defined notes.
4. Genetics	Varieties are bred for yield, firmness, shipping and uniform color. The uniform-ripening trait alone cut tomato sugar; restoring the gene raised it by about 40%.	Varieties chosen for flavor and fitness to the Kona climate, not for a 2,000-mile truck ride.	Character: the variety's full aroma, not a shipping-grade compromise.
5. Bees and ripeness	Wind or self-pollination; mechanical harvest of fruit picked early to survive transport.	BeeGenerative managed hives across the estate, and hand-harvest at full ripeness.	Ripeness: in strawberries, bee pollination gave heavier, redder, firmer fruit that stayed marketable longer.

Why most moringa tastes wrong, and why mOringa won't

Many people who try moringa once never try it again. Hay-like, bitter or musty powder is common, and it is not the plant's fault. It is the result of how and where most moringa is grown and processed. India is the world's largest producer, at an estimated 1.2 to 2 million tons a year, and most supply moves through long chains from small farms to bulk dryers to exporters.

Moringa leaves are delicate. Their green color is chlorophyll, and their fresh, peppery character comes from sulfur compounds related to those in broccoli and radish. Both degrade with heat, light, time and oxygen. In a drying trial, leaves dried in the hottest method, a 122°F oven, held the least vitamin C and scored lowest with tasters on color, aroma and flavor. Other studies found leaves yellowing at oven temperatures as chlorophyll broke down.

Growing conditions matter too. A survey of 35 moringa products bought in Thai markets found nickel above the cited limits in most samples and lead as high as 24 mg/kg in some. A leaf can only be as clean as the soil and water it grows in.

The common path

- Mature leaves and stems stripped together
- Open-sun or high-heat drying, often days after harvest
- Weeks or months in bulk transit and storage
- Soil and water of unknown history, untested lots
- **Tastes:** hay, bitterness, dull olive-brown color

The mOringa path at Kona Hills

- Young leaves picked on the estate, at the right stage
- Into a BOPP chamber the same day: 72°F, 45% humidity, a 12-hour cycle, no high heat
- Grown in volcanic soil with no synthetic inputs, pollinated by estate bees
- Every lot tested for heavy metals before release
- **Target profile:** bright green; fresh-cut grass, sweet pea and spinach; a gentle peppery finish

What it means for Kona coffee

Coffee follows the same rules. A study of arabica grown under 45% shade in Costa Rica found that shade slowed ripening by up to a month and improved bean size and cup quality. Sun-grown beans carried more of the compounds linked to bitterness and astringency, a sign they had not fully matured. Kona's afternoon clouds already provide part of that effect. Kona Hills adds a living canopy of moringa, cacao and coconut through our Quad-Helix agroforestry plan, so the cherries ripen more slowly still.

The second change is what happens after harvest. Today Kona Hills sells most of its crop as anonymous green coffee. We will roast on the estate and sell under the Kona Hills name, so a cup can carry the story and the freshness of the farm instead of losing both in a commodity blend.

The flavor we are building, crop by crop

Each estate crop has a commodity benchmark it competes against, and a target profile we will grow, process and test toward. The targets are design goals; the measurement program on the next page is how we will confirm them.

CROP	TYPICAL COMMODITY PROFILE	KONA HILLS TARGET PROFILE	WHAT GETS US THERE
Kona coffee	Green beans sold anonymously into blends; age and roast level unknown to the drinker	Clean, sweet cup with bright acidity and a long finish, roasted on the estate and dated	Volcanic soil, afternoon cloud plus agroforestry shade, hand-picked ripe cherry, estate roasting
mOringa leaf	Hay-like, bitter, olive-brown powder after hot or slow drying	Bright green; fresh-cut grass, sweet pea and spinach; a gentle peppery finish	Young leaves, same-day BOPP drying at 72°F, metals-tested lots
mOringa seed oil	Sold mainly in bulk to cosmetics makers	Light, clean, faintly nutty oil for the kitchen, including frying	Estate seed, cold pressing, short time from press to bottle
Cacao	Bulk beans fermented off-farm, flavor varies by lot	Fruit-forward chocolate that carries the estate's origin	Shade-grown under the Quad-Helix canopy, fermented and dried on the estate
Estate honey	Blended honey from many sources	Single-estate honey whose taste reflects the flowers of Kona Hills	BeeGenerative hives foraging coffee, moringa and cover-crop blossoms
Coconut	Imported, weeks from harvest	Fresh island coconut water and meat	Grown and opened on the estate, served the same day to visitors

The More Than Organic standard

These are the commitments behind the label. Each one changes something you can taste, and each can be checked.

1. **No synthetic fertilizers or pesticides.** The organic baseline, and only the starting point.
2. **Feed the soil, not the plant.** Compost, biochar and cover crops keep the soil alive so the plant makes its own flavor compounds.
3. **Put minerals back.** Volcanic soil and biochar supply the trace minerals that synthetic programs leave out.
4. **Choose varieties for flavor.** Selection favors taste and fitness to Kona, not shipping durability.
5. **Keep bees working.** BeeGenerative hives across the estate pollinate coffee, moringa and orchard crops. In coffee, field studies have tied a wider range of bee species to higher fruit set.
6. **Harvest ripe, process fast and gently.** Hand-picking at full ripeness, and drying at room temperature in hours rather than days.
7. **Prove it.** Test every lot, publish the results, and let blind tastings decide.

Breeding, not just "GMO"

The flavor lost in supermarket produce mostly comes from conventional breeding, not genetic engineering. Tomatoes, strawberries and moringa sold in US stores are not genetically engineered crops. They were bred over decades for yield, size, firmness and uniform color, and the evidence shows flavor paid the price: lost aroma compounds, diluted sugar, and a ripening trait that cut sweetness. Kona Hills' answer is the same either way: choose varieties for taste, and grow them in a system that lets them express it.

Why this is hard to copy

Any farm can stop spraying. Few can combine a protected-quality volcanic origin, a living-soil program, estate bees, an agroforestry canopy, on-site drying and roasting, and published lab results. Each element adds flavor; together they define a product no commodity chain can match.

From claim to proof: how we will measure flavor

A flavor claim is only worth what it can prove. Each Kona Hills crop will be measured against the leading commercial product in its category, and the results will be published.

MEASURE	METHOD	WHY IT MATTERS
Sugar concentration (Brix)	Refractometer, every harvest	Tracks concentration versus dilution for fruit and cherry
Polyphenols and vitamin C	Standard laboratory assays	The defense compounds behind flavor depth and nutrition
Color and chlorophyll	Color meter readings on every powder lot	A direct read of how gently moringa was dried
Aroma compounds	Gas chromatography–mass spectrometry, quarterly	A chemical fingerprint of what makes each crop smell and taste the way it does
Heavy metals	ICP-MS, every lot, before release	Safety first, and a standard most imported powder never meets
Coffee cup score	Specialty Coffee Association protocol, by licensed graders	The global, 100-point language of coffee quality
Blind consumer panels	Side-by-side tastings against leading brands	The test that matters most: which one people prefer

WHAT THIS MEANS FOR INVESTORS

A difference people can taste supports a price people will pay. Origin-protected foods such as San Marzano tomatoes earn their premium because their flavor cannot be produced anywhere else.

Kona Hills combines a protected-quality origin, the Kona Coffee Belt, with a farming system built to express it, and a testing program that turns “tastes better” into published numbers.

That combination is hard to copy: a competitor can buy the same seed, but not the same volcanic slope, the same living soil, or the same bees.

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