



CITRUS PORTFOLIO

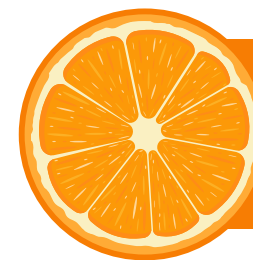
Feel Nature's **Variety.**[®]



Citrus: It's Worth The Squeeze!

With its ability to add a pop of sweet-tart flavor to any dish and get you in that 'oh-so-good' mood with its refreshing scent, citrus is an iconic fruit family. Consumers genuinely love citrus and associate it with cleanliness, mood boosting, immunity and health given its refreshing and tangy contrast to other flavors and fragrances.

As consumers continue to seek products that deliver both functionality and emotional benefits with exceptional taste and scent, citrus shines like no other.



**59% of Consumers
Love or Like Citrus!**

-Datassential





BELL'S UNIQUE APPROACH TO CITRUS DEVELOPMENT

At Bell, we combine our deep knowledge of flavors and fragrance into every citrus profile we develop. Our Flavorists and Perfumers work hand in hand to understand the delicate nuances of each citrus variety and utilize their distinct properties to deliver impactful and authentic flavor and fragrance experiences.

With over 80% of the taste experience delivered via aroma, a collaborative approach is essential, especially for capturing the unique profiles from the thousands of citrus varieties we test and create. Whether a flavor or fragrance, Bell provides a variety of formats and formulations, such as natural, organic, liquid, spray dry, and more, to meet your product development needs and regulatory standards.



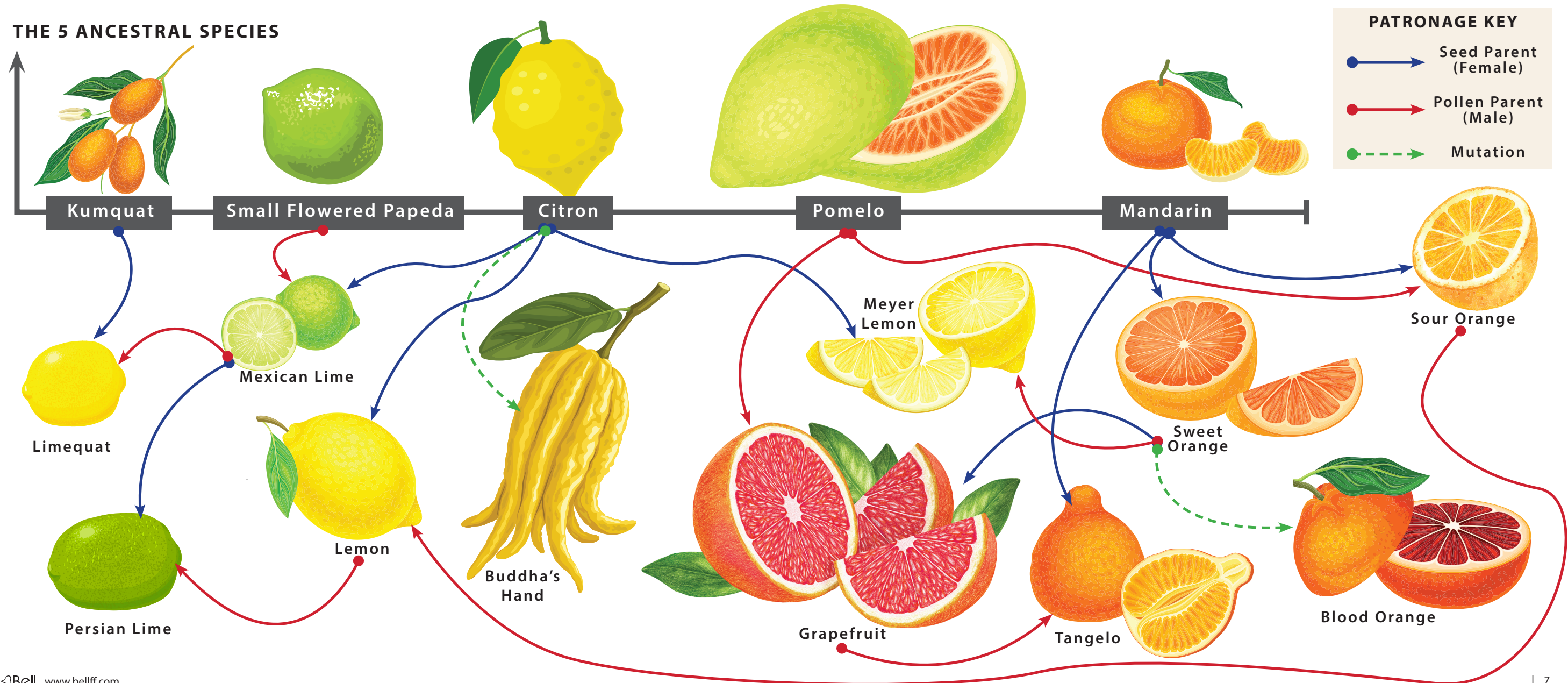
THE BELL FLAVOR & FRAGRANCE DIFFERENCE

- Unprecedented turn-around times
- Custom package sizes to fit your manufacturing specs
- Smaller minimums available to satisfy product development needs
- Stock flavors for contracted customers to guarantee availability
- Experienced production staff averaging 20+ years
- Food Scientists, Fragrance Experts, Degreed Chemists and Chemical Engineers



The Citrus Family Tree

Citrus fruits are derived from five common ancestors: citrons, pomelos, small flowered papedas, kumquats, and mandarins. Thousands of years of natural cross pollination in the wild and selective breeding by humans have resulted in an impressive family tree containing thousands of citrus varieties.



The Birth of Citrus

From their basic roots, citrus provides a wide variety of flavor and aroma.



The global citrus market is expected to grow to \$1.4 BILLION, by 2030.

-Euromonitor



KUMQUAT

Native to Southeast Asia, a kumquat resembles an orange in shape and color, but is actually quite small — about the size of an olive. The peel is known to be the sweetest part of the fruit.

Flavor Notes: Sour, Tangy, Sweet

Fragrance Notes: A more complex scent than a normal orange: sweet/tart, with hints of lemon and pine.



SMALL FLOWERED PAPERDA

A small citrus fruit of Asian origin, the calamansi is a cross between an orange and a kumquat. It's green when growing on trees, but turns orange as it matures and can be eaten at either stage of ripeness.

Flavor Notes: Tart, Sour, Acidic, Bitter, Lemon

Fragrance Notes: The small flowered papada has a fresh, lemon-like scent.



CITRON

Citron is a large, fragrant citrus fruit with a thick rind. It resembles a lumpy lemon and is primarily used for its zest. The essential oils found in the outer rind are fragrant and believed to have antibiotic properties.

Flavor Notes: Sour, Sweet, Lemon, Tropical

Fragrance Notes: The citron aspect of the scent is in between a lemon and a lime. But it has an herbal, leafy note that balances the citron. The result is a crisp, clean aroma.

POMELO

The pomelo is the largest citrus fruit. It is a natural, non-hybrid, citrus fruit, native to Southeast Asia.

Flavor Notes: Sweet, Grapefruit

Fragrance Notes: Rather like grapefruit, its near-relation, pomelo is a brilliant, vibrant top note or heart note which adds citrus sparkle to many perfumes. It doesn't have grapefruit's bitter edge.



MANDARIN

Mandarins are a type of orange and are the parent of tangerines, clementines, and satsumas. They are smaller and sweeter than oranges, a bit flatter in shape, and have a thinner skin that makes them easier to peel.

Flavor Notes: Light Acidity, Sweet, Orange

Fragrance Notes: The mildest of citrus fruits, mandarin smells sweet, juicy, and tangy with notes of candied orange and a delicate floral, neroli-like undertone.



CITRUS STAPLES

While citrus fruits like oranges, lemons and limes continue to be go-to staples, consumer are seeking more niche and nuanced citrus flavor profiles and unique varietals from around the world to ignite their taste buds and broaden their palates.

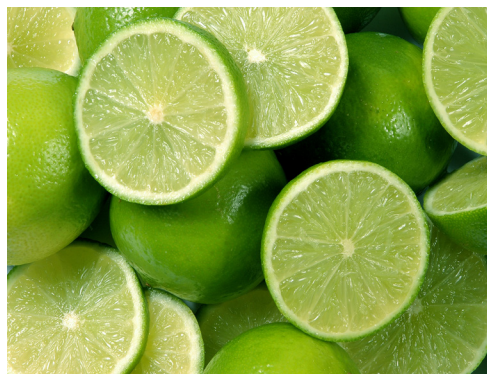


LEMON

The lemon is a species of small evergreen tree in the flowering plant family Rutaceae, native to Asia.

Flavor Notes: Tart, Sour, Zesty, Astringent, Bitter, Acidic

Fragrance Notes: Fresh, clean, biting, but with notes of sweetness. Lemon has a distinctively clean, sharp, and citrus, the fragrance has a smoother, creamier aroma in the higher qualities.



LIME

A lime is a citrus fruit, which is typically round, green in color and contains acidic juice vesicles. There are several species of limes, including the Key lime, Persian lime, Makrut lime, and desert lime.

Flavor Notes: Sharp, Tangy, Bitter, Zesty, Spicy

Fragrance Notes: Lime is a fresh, lively, green tonic and uplifting note. It has a natural coca-cola note as well as a sour candy smell. It brings freshness and sparkle to a fragrance.



GRAPEFRUIT

Grapefruit is a citrus hybrid originating in Barbados. The grapefruit is known as sour to semi-sweet, somewhat bitter fruit.

Flavor Notes: Sweet, Tart, Bitter, Astringent, Floral, Juicy

Fragrance Notes: It has a fresh, tangy scent that is similar to that of lime, but sweeter. Its fragrant note is a lively and sparkling, sweet – bitter mix.

ORANGE

An orange is a fruit of various citrus species in the family Rutaceae. Yes, its a staple fruit, but the consumer demand of the orange shouldn't be ignored. According to Datassential, 84% of consumers love or like orange!

Flavor Notes: Sweet, Juicy, Tangy, Bitter

Fragrance Notes: Orange smells fresh, juicy, sweet and a bit powdery



UNIQUE CITRUS VARIETALS



CALAMANSI

The Calamansi is a cross between an orange and a kumquat. This small citrus fruit of Asian origin starts out green on trees, turning more orange colored as it matures, and it can be eaten at either stage of ripeness. It has a tart and sour flavor unmatched by other citrus varieties.

Flavor Notes: Sour, Orange, Floral, Sweet

Fragrance Notes: It has a distinctive aroma, citrusy and floral, between a mandarin and a lime.



YUZU

While yuzu may appear similar to lemon, its taste is more nuanced and is often described as a cross between lemon, grapefruit, and mandarin orange. It delivers a strong aroma and fragrant zest. Yuzu isn't quite as sour as traditional citrus, so it can even be eaten raw.

Flavor Notes: Tart, Floral, Herbal/Herbaceous, Sour Lemon, Mandarin

Fragrance Notes: The aroma of yuzu combines the tartness of grapefruit with the sweetness of mandarin orange. It is a decidedly citrusy scent with subtle green and floral notes.



FINGER LIME (CITRUS CAVIAR)

The Australian finger lime or caviar lime tastes citrusy, acidic, and slightly bitter with herbaceous undertones. The red champagne and crimson tide varieties taste the sweetest, while chartreuse finger limes taste the more bitter.

Flavor Notes: Bitter, Acidic, Herbaceous, Green, Rosemary, Minty

Fragrance Notes: The scent of finger limes has been described as a blend of fresh citrus, grapefruit, lime, and a hint of sweet apple.

BUDDHA'S HAND (FINGERED CITRON)

We know what you're thinking, but no, we didn't just Photoshop creepy fingers onto a lemon. This is Buddha's Hand - the result of a genetic mutation that happened centuries ago to citron.

The exquisite shape and appearance of Buddha's hand is the result of a genetic mutation in citron that occurred many centuries ago. Traditionally used as an offering at Buddhist temples, the closed finger variety resembles that of a prayer position and symbolizes good fortune, happiness and a long life. Typically used as a zest, as its peel contains concentrated essential oils

Flavor Notes: Zesty, Lemon, Bitter, Sweet, Floral

Fragrance Notes: The smell of Buddha's hand citron is unique and powerful: sharp, resinous (almost pine-y) with the best attributes of oranges, limes and lemons.



Global citrus
production is
projected to reach
173.8 million metric
tons by 2026.

-Euromonitor





BERGAMOT

Bergamot is a fragrant citrus fruit the size of an orange, displaying a yellow or green color similar to a lime depending on ripeness. This fragrant fruit is a hybrid of lemon and bitter orange.

Flavor Notes: Floral, Tart, Acidic, Spicy

Fragrance Notes: It's aroma is refreshing and rounded; sweet, but complex and deep at the same time; similar to lime, but with floral, herbal, and resinous undertones. It is the scent of Earl Grey Tea.



BLOOD ORANGE

Blood orange is a variety of orange containing a vibrant crimson flesh. Anthocyanins, a family of polyphenol pigments common to many flowers and fruits, but uncommon in citrus fruits, provide its deeper color.

Flavor Notes: Raspberry, Sweet, Sour, Strawberry

Fragrance Notes: This hybrid fruit offers a warm, tangy, sweet aroma with a berry facet that blends beautifully with other citrus like neroli, grapefruit and mandarin.



SUDACHI LIME

Sudachi is a type of lime and is considered a hybrid of two types of orange citrus fruits. Its flavor is often described as similar to a blend of yuzu, lime, and lemon. Sudachi is typically used in juice or zest form.

Flavor Notes: Tart, Sour, Sweet, Honey, Lime

Fragrance Notes: Their fragrance is sharp, citrusy and tart at every stage.



TANGELO

Tangelo is a hybrid of a *Citrus reticulata* variety (e.g., mandarin orange, tangerine) and a *Citrus maxima* variety (e.g., pomelo or grapefruit). The name is a combination of 'tangerine' and 'pomelo'.

Flavor Notes: Tart, Juicy, Tangy, Grapefruit, Honey, Sweet, Floral

Fragrance Notes: The scent of a Tangelo is a light floral scent with hints of orange.

Featured Citrus *Flavors* List

Bael	Grapefruit (Pink, White, & Ruby Red)	Mapo (Pomelo / Mandarin)
Bergamot Orange	Indian Wild Orange	Meiwa Kumquat
Bitter Orange	Kaffir Lime	Meyer Lemon
Blood Orange	Key Lime	Peruvian Lime
Buddha's Hand	Kinnow	Pink Lemon
Calamansi	Kumquat	Pomelo
Candied Lime	Lemon Candy	Preserved Lemon
Cara Cara Orange	Lemon Juice	Satsuma Mandarin
Citron	Lemonade	Sorrento Lemon
Clementine	Lemoncello	Sudachi
Dalandan Orange	Lime Juice	Tangelo
Dried Lime	Limequat	Tangerine
Finger Lime	Mandarin Orange	Yuzu

BELL'S FLAVOR CAPABILITIES



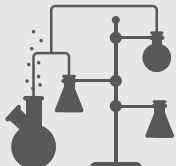
Liquids



Spray
Dried



Emulsions



Extracts



Blended



Reaction

FLAVOR APPLICATIONS

- Beverages
- Confectionery
- Dips/Sauces
- Lip Balms
- Oral Care
- Pet Care
- Savory
- Seasonings
- Snacks
- Soups
- Supplements
- Syrups

LABELING & CERTIFICATIONS

Natural, N&A, WONF, Artificial
Certified Organic
Kosher
AAFCO

FLAVOR TECHNOLOGIES

Extenders & Replacers
Alcohol Smoothers
Masking
Extended Shelf Life

BELLTECH®

Featured Citrus *Fragrance* List

ALL NATURAL BLENDS

100% Natural fragrance creations

- Bergamot
- Citron
- Grapefruit
- Kumquat
- Lime Blossom
- Mandarin Zest
- Pomelo
- Yuzu

AROMATIC INFUSIONS

Natural plant essence with a slight scent

- Grapefruit
- Lemon
- Mandarin
- Orange
- Tangerine

BOTANICALS

Natural plant essence with no scent

- Grapefruit
- Lemon
- Lime
- Orange

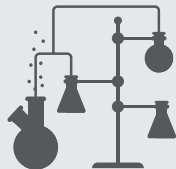
BELL'S FRAGRANCE CAPABILITIES



Liquids



Spray Dried



Extracts & Infusions

FRAGRANCE APPLICATIONS

Bell's unique fragrances and botanicals have the ability to define products aesthetically, functionally and to distinguish brands. Whether it's from the bottle, in-use or providing all-day freshness, we provide creations that consumers will fall in love with over and over again.

Customers use our Fragrances, Botanicals and Infusions in a wide array of applications, including:

- Personal Care
- Home Care
- Pet Care

LABELING & CERTIFICATIONS

100% Natural
100% Plant Based
Clean Label
Allergen Free

FRAGRANCE TECHNOLOGIES

Olfactive DNA
Naturals & Botanicals
Neutralization
Performance

BELLTECH®

Scan here to explore the wonderful world
of citrus, request more
information, or request a sample!



Bell Flavors & Fragrances

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