MARKET REPORT

2020

Advanced Biotech's 2020 Spring Market Report
Advanced Biotech is a leading manufacturer and supplier of high-quality Natural flavoring ingredients & botanical extracts for the food/beverage, cosmetic and personal care industries. With over 25 years of experience working with Fermentation processing & botanical extracts, we can help develop new innovative and functional products for today’s competitive marketplace. Our company prides itself in the ability to cater to our customer’s specific needs while maintaining our focus on integrity, honesty and the commitment to high quality product standards. We proudly offer our quality Natural ingredients to companies around the world.
The Covid-19 situation is still a very fluid situation around the globe. For the most part some China factories have started to produce as long as raw materials are available. The increase in demand has put a lot of pressure on numerous products. This will continue for the next several months until the Covid-19 virus situation is stable. We are closely monitoring the guidance of the World Health Organization and the Centers for Disease Control regarding the spread of the virus. Our focus is to ensure we meet customer needs while doing our part to keep you, our employees, and our communities safe.
We offer a wide range of different products that are specifically designed for optimum flavoring and smell. We know that without top quality ingredients, your products will not stand out among the sea of items consumers have to choose from. For this very reason, we strive to make only the best products that will put your items over the top with flavor and aroma. Our products are all created using high quality ingredients to ensure the highest quality for any product need you have.

Advanced Biotech's product categories include:
The spring harvest is upon us, leaves are under collection now, the price is stable and the distillers have got quite nice profit margin from spring crop. Although the quantity of leaves collected is still limited in some producing areas. But the weather is good and the leaf collection can last for at least one month more, the final quantity is still not determined yet. We expect the final spring crop oil will be around 250-300 tons if the price keeps at this level. Considering the increasing demands, it is expected that the market price might keep firm further until next crop. We utilize Cassia oil to produce many of our popular products such as Cinnamic aldehyde, Benzaldehyde and Methyl cinnamate. We expect to see a slight price increase for Spring Cassia oil.

CASSIA OIL

ESTIMATED EXPORT QUANTITY OF CASSIA OIL

<table>
<thead>
<tr>
<th>Year</th>
<th>Quantity (tons)</th>
</tr>
</thead>
<tbody>
<tr>
<td>2015</td>
<td></td>
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<tr>
<td>2016</td>
<td></td>
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<tr>
<td>2017</td>
<td></td>
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<tr>
<td>2018</td>
<td></td>
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<tr>
<td>2019</td>
<td></td>
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<tr>
<td>2020</td>
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MARKET PRICE USD 35.00 / KILO
Demand has outpaced production in 2020. Raw materials are at normal levels but prices will remain high until more product comes online.

MASSOIA BARK OIL

Collection and processing of new crop is ongoing, demand seems to have increased as Global Food companies struggle to keep pace with consumer demands. Price will likely remain unchanged until the next harvest.

BITTER ALMOND OIL

ABT CODE# 1151

Demand has outpaced production in 2020. Raw materials are at normal levels but prices will remain high until more product comes online.

GARLIC OIL

Chinese

ABT CODE# 3010

The price of fresh garlic bulbs is firm and demand is strong. Supply is plentiful and should hold until next crop.
Prices have risen due to raw material issues. Supply should be back to normal after H3 2020.

**ETHYL ACETATE NATURAL**

**BUTANOL NATURAL**

Natural Fermentation Butanol is short in supply due to the shutdown of several factories. Prices for many Butanol derivatives and esters could see a significant price surge if demand outpaces production. Ethyl butyrate prices will continue to rise 10-15% in the short term.
Prices have fallen as additional producers have come online. We expected prices to remain stable for the remainder of the year.

Supply from China is expected to increase in H3 2020 as more factories come back online. Prices have been stable.

Product has been scarce due to China Fermentation factory shut down causing severe shortage of product. Prices have increased slightly over last quarter.
Caproic acid demand spiked again in 2020 due to factory shut downs and raw material issues. However, prices have remained relatively stable.

The lock down of India has put pressure on existing supplies of Natural Mint fractions. Prices have increased 25-50% in the last couple of weeks. Fermentation qualities are slowly being eased into the market. We have noticed some clients switching from Synthetic to Natural in the short term. As of now, the lock down will continue until May 17th 2020.
Eugenol prices remain stable at this time, however the demand for Natural Vanillin ex clove oil is increasing. There is limited production of this product at this time. ABT will ramp up production in H3 2020 to keep pace with our client’s demand.

VANILLIN EX FERULIC ACID

ABT CODE# 1495

Demand for Ferulic acid derived material is on the rise. Prices are stable as more ferulic acid producers have come online. Look for further price decreases in the 1st quarter of 2020.

VANILLIN EX EUGENOL

ABT CODE# 1145

Eugenol prices remain stable at this time, however the demand for Natural Vanillin ex clove oil is increasing. There is limited production of this product at this time. ABT will ramp up production in H3 2020 to keep pace with our client’s demand.

VANILLIN EX TURMERIC

ABT CODE# 1496

Prices remain stable as raw materials have been steady and plentiful.
Increase in Vanilla bean prices have seen select clients move away from conventional Vanilla extracts and utilize Natural Vanillin. The demand is outpacing production and prices could start to climb if capacity is not increased in the next 3-6 months.
All the vanilla bean notes without the cost. We challenge you to taste the difference.

NATURAL VANILLA EXTRACT REPLACERS

VANILLA EXTRACT 1X REPLACER
BOURBON TYPE
ABT CODE# 6208

VANILLA OLEORESIN SUBSTITUTE
ABT CODE# 6096

VANILLA EXTRACT 10X REPLACER
ABT CODE# 6204

VANILLA EXTRACT 10X REPLACER #2
ABT CODE# 6209
Demand for pure vanilla extract remains very strong. Large retailers are increasingly trying to play in the Natural Foods arena; the push for natural and organic ingredients is strong. Vanilla is a minor player overall but companies like Whole Foods has clearly put artificial vanilla flavor on their target list of evil ingredients and others are following suit. Typically when vanilla prices increase, there is a move to shift to artificial. This is less likely today and is one reason to see prices hold on. Stronger demand is evident as demand is not eroding even with the dramatic increase in prices.

As an alternative to ex ferulic acid Vanillin, ABT has developed pure Natural Vanillin that is FDA/TTB approved and at a cost effective price.
### NEW NATURAL FLAVORING SUBSTANCES

<table>
<thead>
<tr>
<th>Natural Vanilla Replacers</th>
<th>New Natural Flavor &amp; Fragrance Extracts</th>
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<tbody>
<tr>
<td>Natural Vanilla Replacers</td>
<td>Grillwood Extract OS ABT CODE# 6203</td>
</tr>
<tr>
<td>2 TROPICAL OXATHIANE 1% ETOH ABT CODE# 1803</td>
<td>ST JOHNS BREAD POWDER ABT CODE# 6193</td>
</tr>
<tr>
<td>2 METHYLButYL ISOVALERATE ABT CODE# 1811</td>
<td>HEMP DISTILLATE ABT CODE# 6195</td>
</tr>
<tr>
<td>ISOAMYL ISOVALERATE ABT CODE# 1127</td>
<td>HEMP EXTRACT ABT CODE# 6196</td>
</tr>
<tr>
<td>COGNAC LACTONE 5% ETOH ABT CODE# 1776</td>
<td>CILANTRO EXTRACT ABT CODE# 6197</td>
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<tr>
<td>GRAPEFRUIT MERCAPTAN 1% TEC ABT CODE# 1805</td>
<td>EPAZOTE EXTRACT ABT CODE# 6198</td>
</tr>
<tr>
<td>4 VINYL GUAIACOL 1% ETOH ABT CODE# 1806</td>
<td>HEMP CONCENTRATE SE ABT CODE# 6194</td>
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<tr>
<td>DL MALIC ACID (USA ONLY) ABT CODE# 1807</td>
<td>BRIX BOOSTER ABT CODE# 6202</td>
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We have undertaken the task of expanding production of several of our natural products at our Totowa, NJ manufacturing site. Our Natural products, fermentation and extraction facilities are expanding along with our capabilities.