

# PLANTERIA® BF FIXOLOR™ AT IN SPARKLING LEMONADE



## KEY BENEFITS

- Yeasts, Molds TPC Inhibition;
- Increases Anthocyanin (color) stability;
- Maintain freshness and authentic appeal;
- Increase microbial stability;
- Cost effective;
- Shelf-life extension;
- Clean Label;

## NATURAL ANTIMICROBIAL IN SPARKLING LEMONADE

Consumers are increasingly interested in natural and sustainable options in the food and beverage industry. This has led to a growing demand for clean and socially responsible brands which prioritize the use of natural ingredients and environmentally friendly practices. To meet this demand, Handary has developed a range of plant-based food protection solutions which help to extend the shelf-life of beverages without compromising the taste, quality, or sustainability.

Sparkling lemonade is one beverage facing challenges due to microbial growth and degradation. Traditional preservatives can be effective in extending shelf-life, but often contain synthetic and chemicals additives that consumers are hesitant to consume. Handary has created a solution using a combination of natural preservatives to safely extend the shelf-life of sparkling lemonade while preserving its flavor, color, and aroma.

Handary's solution combines Fixolor™ AT and Planteria® BF, two natural preservatives which work together to protect against microbial growth and other forms of degradation. By using Handary's natural preservative solutions, beverage companies can meet the growing demand for natural and sustainable products without sacrificing product quality or taste.

## OUR BRANDS

**FIXOLOR™ AT**  
Cultured Sugarcane



**PLANTERIA® BF**  
Citrus Fruit Extract



	Fixolor™ AT	Planteria® BF
Code	0901	0702
Registration Number	Clean Label	Clean Label
Organoleptic impact	Slightly Acidic	No Impact
Source	Non-GMO, renewable	Non-GMO, renewable
Thermal Stability	Up to 70°C	Up to 150°C
Applicable pH	3-6	5.5-8
Recommended dosage	0.5-1.0 % (w/w)	2.5-5 g/kg
Packing Size	1L, 20L	0.5KG, 10KG
Appearance	Clear Brownish liquid	Off-White Powder
Labelling	Cultured Sugarcane	Berry Fruit Extract
Solubility	Water Miscible	Water Soluble

## CASE STUDIES

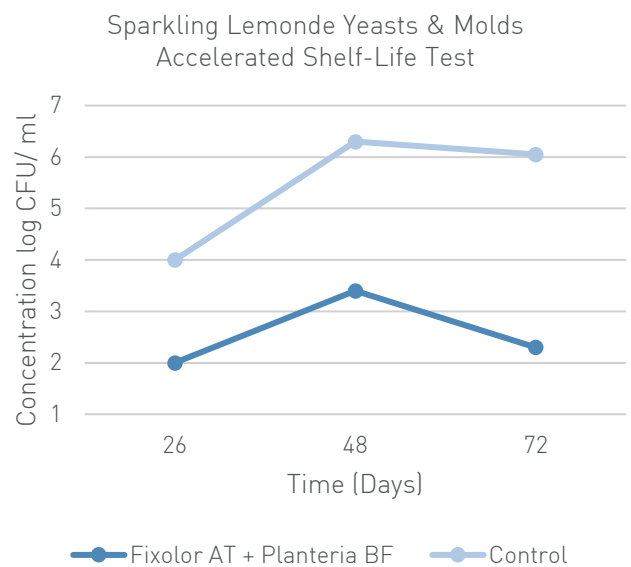
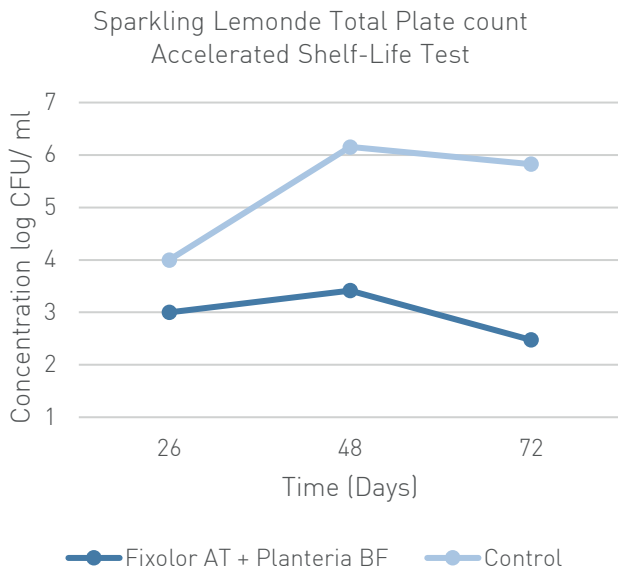
Chilled single-strength sparkling lemonade products also have unique characteristics which make them vulnerable to spoilage by fermentative yeasts, molds, and a small number of aciduric total aerobic bacteria. These characteristics include low pH/high acidity, reduced oxygen content, and low protein and amino nitrogen content. During chilled warehousing and distribution of sparkling lemonade, the microorganisms of greatest concern are those that can multiply at temperatures at or below 5-7°C.

The fruits and vegetables commonly used in sparkling lemonade processing are exposed to various potential spoilage microorganisms during agricultural production, harvesting, and transportation to fruit sorting and sparkling lemonade extraction facilities. Therefore, it's important to carefully monitor and control the entire sparkling lemonade production process to ensure that the sparkling lemonade is safe and free from spoilage microorganisms.

## PLANTERIA® BF & FIXOLOR™ AT: SPARKLING LEMONADE SHELF-LIFE EXTENSION

The objective of this experiment was to investigate the microbial spoilage in both chilled and incubated sparkling lemonade and evaluate the effectiveness of Fixolor™ AT together with Plantéria® BF in preventing spoilage problems in beverages.

The results clearly demonstrate the exceptional efficacy of Fixolor™ AT and Plantéria® B in sparkling lemonade applications. The graphs show microbial stability for up to 72 days, and this can be extended depending on the specific characteristics of the beverage and the storage conditions.



## CONCLUSION

Overall, these findings suggest the combination of Fixolor™ AT and Plantéria® BF can be a highly effective solution for preventing microbial spoilage in sparkling beverages, and further research can be conducted to explore its potential for use in other types of beverages.

Handary's natural preservatives can help maintain the quality and safety of the product, reducing the risk of spoilage and ensuring customer satisfaction.



## APPLICATION GUIDELINE

The following guideline will assist you to get the optimum solution by using Handary Planteria® BF and Fixolor™ AT to effectively and naturally extend the microbial stability and the shelf-life of sparkling lemonade.

### DIRECT ADDITION INTO FORMULATION

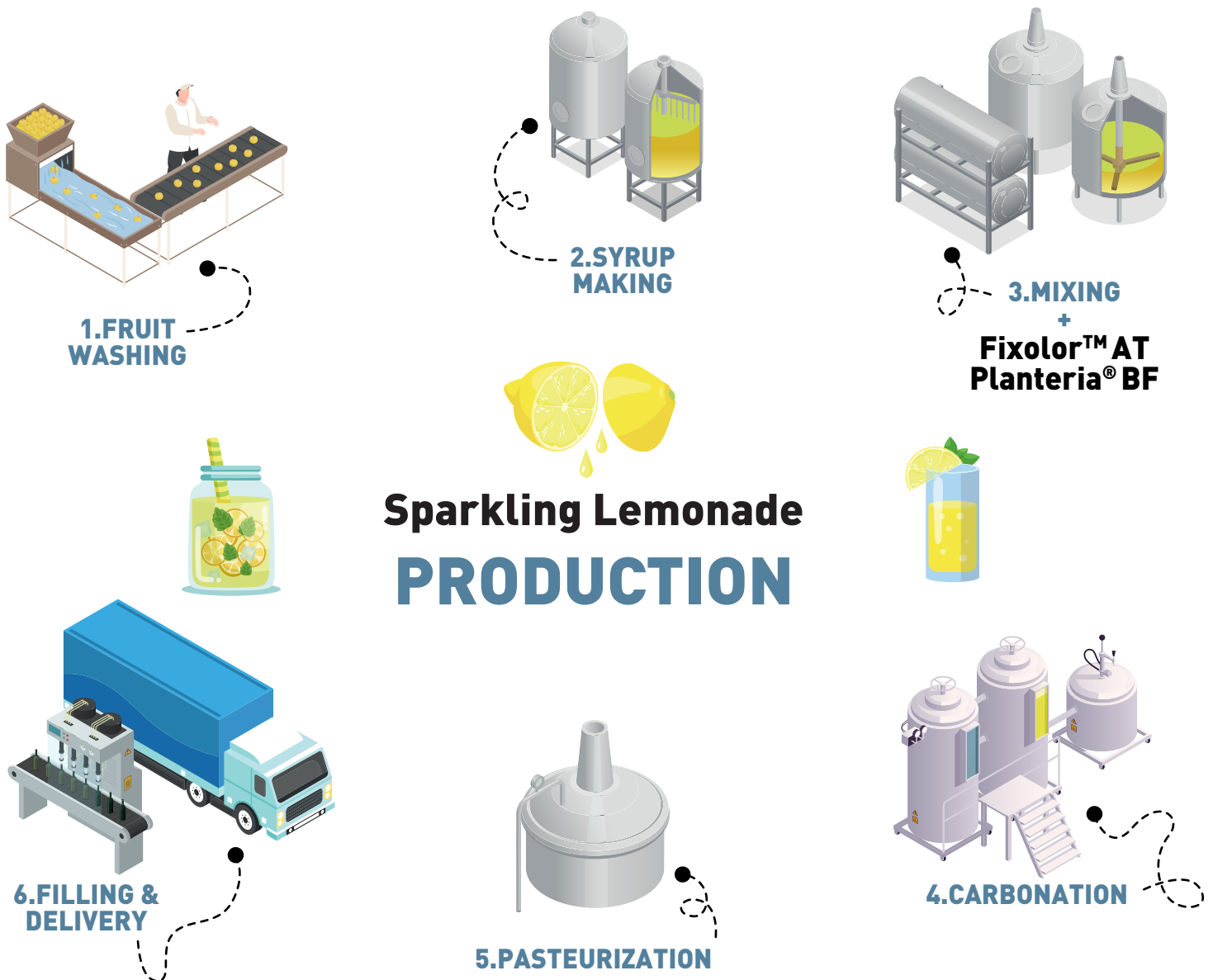
Follow the suggested dosages to apply Planteria® BF and Fixolor™ AT directly into sparkling lemonade.

Ingredients	Application		Benefits	Dosage
Fixolor™ AT	Beverages	Carbonated Beverages	Growth control of TPC (Total Plate Count) and color stability	0.1-1.0% (w/w)
Planteria® BF	Beverages	Carbonated Beverages	Growth control and stability of Yeasts and molds	2.5-5 g/kg

The recommended doses of Planteria® BF and Fixolor™ AT are added individually but at the same step of the production. The suggested dosage of each product should be added during the mixing step.

### FRUIT SMOOTHIES MANUFACTURING PROCESS

Follow the representative production process flow chart of sparkling lemonade and the recommended stage of product incorporation to get the best efficiency for Planteria® BF and Fixolor™ AT application.



These steps are just a general guide for the production of sparkling lemonade with a pasteurization step. The exact process may vary depending on the specific recipe and production equipment used.