



"Always Growing"



THE EFFECT WEATHER HAD ON FRENCH BEAN YIELD

NOV-2022



Always
Growing



Challenge the
Impossible



Never
Give Up

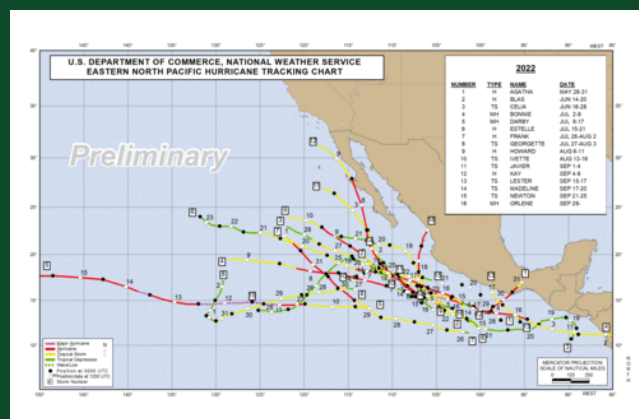
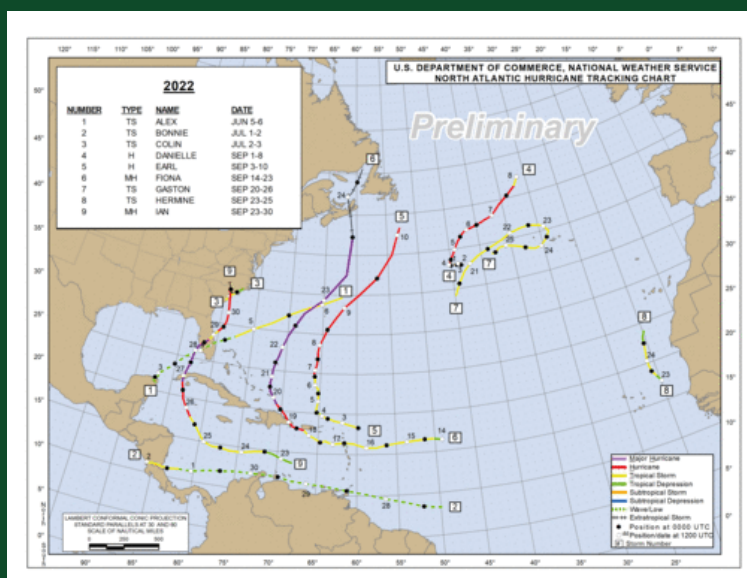


Always Do the
Right Thing

The effect rains had on the production of French Beans in November 2022.

The French bean crop cycle began its first stages on week 31, which started on August 1, and ended on week 45. This date coincided with the rainy season and with an atypical storm season, both on the Atlantic and Pacific coasts. Overall, there were at least 9 events that raised precipitation levels during this crop cycle.

As per the National Hurricane Center and the National Oceanic and Atmospheric Administration (NOAA, 2022), the following two graphs summarize the storms and dates they affected the coasts until September 2022:

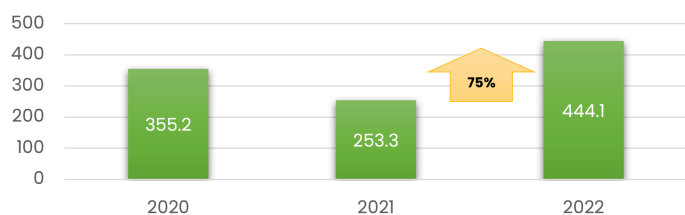


SOURCE: NOAA (2022). Monthly Tropical Weather Summary.

The accumulated precipitation (in mm) during the crop cycle compared to previous years is illustrated for the weather stations located in the French Bean production regions:

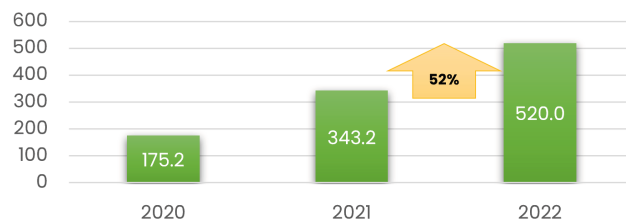
Weather Station in Las Verapaces

August–October Previous and Current Season 2020–2022
Accumulated precipitation (mm)

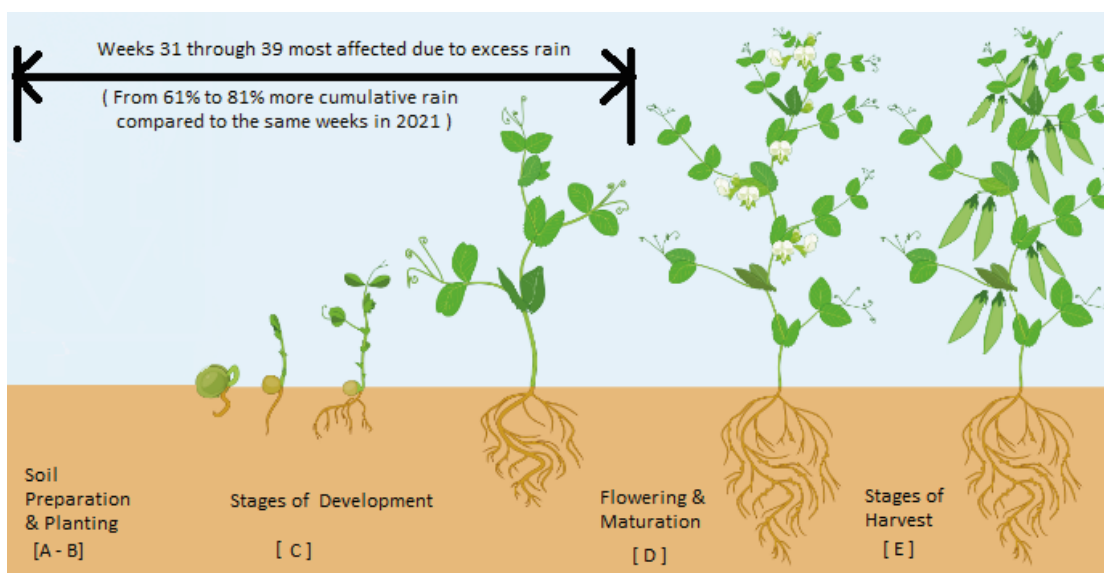


Weather Station in East–Central Zone

August–October Previous and Current Season 2020–2022
Accumulated precipitation (mm)



SOURCE: METEOBLUE (2022).

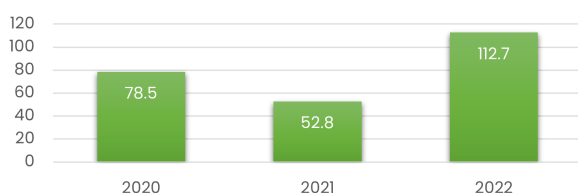


A. Stage of Soil Preparation: Hurricanes Estelle and Frank (Pacific) affected crops on weeks 31–33. Technically during the 3 weeks before planting, there should be a rainfall of less than or equal to 5 mm average accumulated rainfall for proper soil preparation; this year the averaged was 38 mm in Las Verapaces and 33 mm in the East–Central zone. Plantings were strategically moved to more manageable soils in the area to reduce risk.

Las Verapaces Weather Station

Weeks 31–33

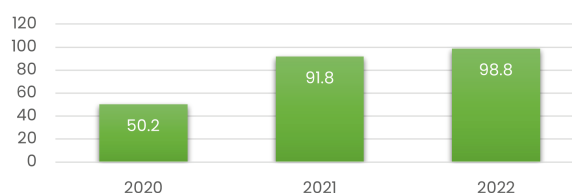
Accumulated precipitation (mm)



East–Central Weather Station

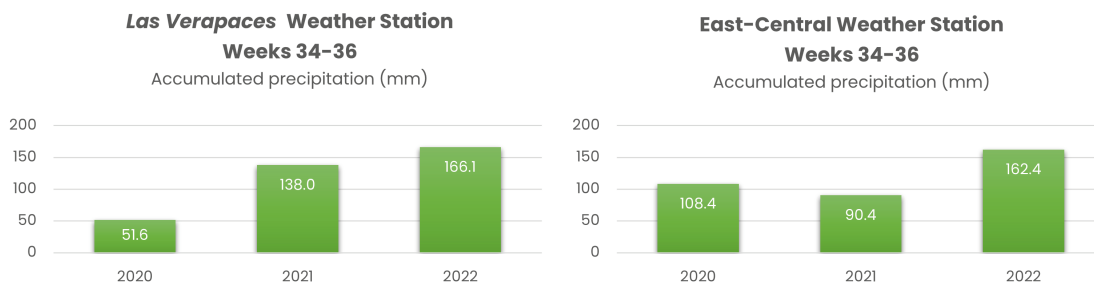
Weeks 31–33

Accumulated precipitation (mm)



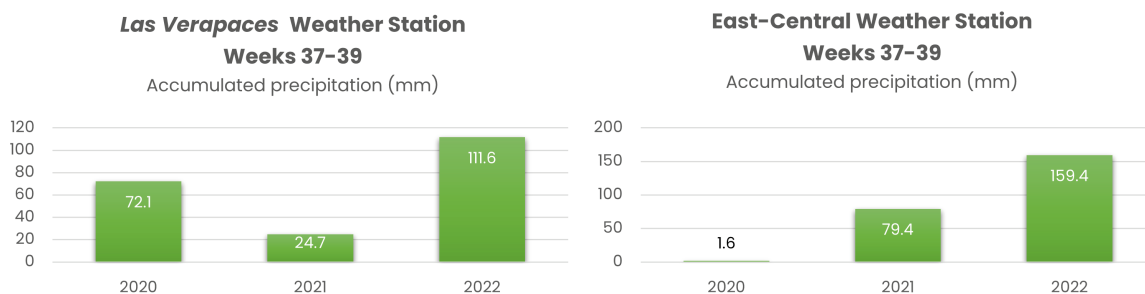
SOURCE: METEOBLUE (2022).

B. Stage of Planting: Hurricane Kay (Pacific) affected crops on weeks 34-36.



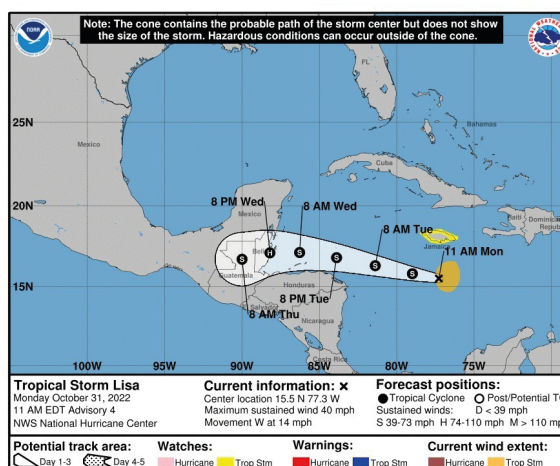
SOURCE: METEOBLUE (2022).

C. Stage of Development: Hurricanes Fiona and Ian (Atlantic) and Tropical Storm Lester (Pacific) affected crops on weeks 37-39.

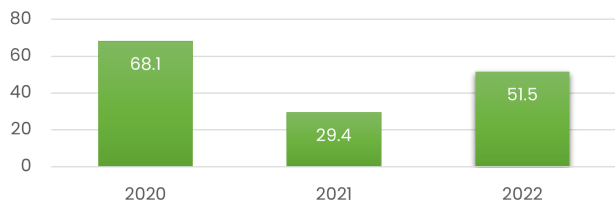


SOURCE: METEOBLUE (2022).

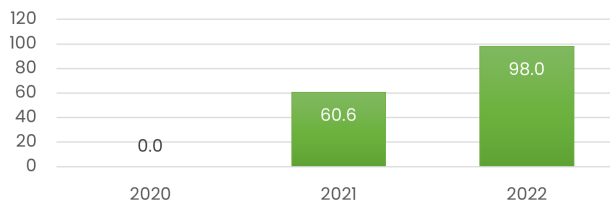
D. Stage of Flowering and Maturation: Tropical Storm Julia (Pacific) and Hurricanes Karl and Lisa (Atlantic) affected crops on weeks 40-42. These events occurred throughout October and early November.



Las Verapaces Weather Station
Weeks 40-42
Accumulated precipitation (mm)



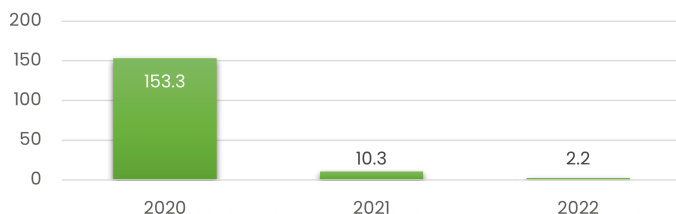
East-Central Weather Station
Weeks 40-42
Accumulated precipitation (mm)



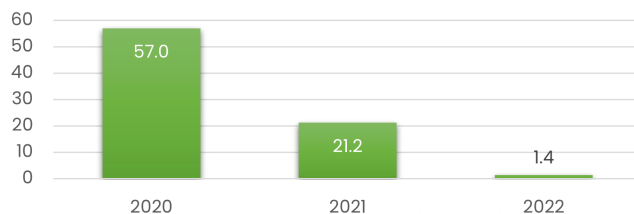
SOURCE: METEOBLUE (2022)

E. Stage of Harvest: Weeks 43-45. No extreme weather events.

Las Verapaces Weather Station
Weeks 40-42
Accumulated precipitation (mm)



East-Central Weather Station
Weeks 40-42
Accumulated precipitation (mm)



SOURCE: METEOBLUE (2022)

Summarizing the above, Guatemala experienced its worst climatic conditions of the last 10 years. If we put this into perspective, thanks to the timely actions taken by our team and by using the best agricultural practices, we were still able to have a fill rate of over 70%. We understand that this time of the year is extremely important for the entire industry, and for this reason UniSpice will continue to innovate, diversify and increase its production areas. We are committed to making this unpredictable business as predictable as possible.