



# ApiCaribe

## *Since 2019...*



# Before ApiCaribe: Grenada 2017



# Introduction

ApiCaribe was launched at the Argentina Embassy to Barbados and the Eastern Caribbean on July 15<sup>th</sup>, 2019.

Triangular Agreement between the Government of Argentina, Ministries of Agriculture in the Caribbean and IICA

Aim to support the development of the apiculture sectors in the Caribbean through technical support from Argentina



# ApiCaribe Project Partners

Ministry of Foreign Affairs and Worship of  
Argentina, General Directorate for International  
Cooperation

Inter-American Institute for Cooperation on  
Agriculture (IICA)

Universidad Nacional Del Sur

Laboratorio de Estudios Apícolas (LabEA), UNS,  
Argentina)

Cooperativa Apícola Pampero (CAP)



Ministerio de Relaciones Exteriores,  
Comercio Internacional y Culto  
Argentina



# ApiCaribe 2019 - 2022

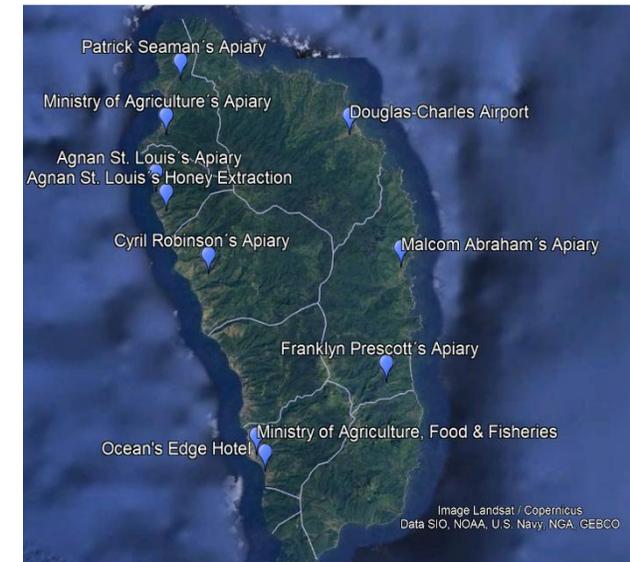
First mission – Barbados, Dominica, St. Lucia, St. Kitts and Nevis ; 06/2019 – 11/2019

- **Exploratory visits to assess beekeeping potential and industry demands; introductory beekeeping training**
- **During Covid (2020 – 2021) distribution of Aluen Cap and virtual support of field trials on varroa mite treatments**



Second mission - Trinidad & Tobago, Grenada, St. Vincent & the Grenadines; October 2022

- **Exploratory visits to assess beekeeping potential and industry demands; introductory beekeeping training**



# ApiCaribe 2019 - 2022

## Highlights of Missions 1 & 2

- ApiCaribe expanded from 4 to 7 countries
- 1 field trial (St. Lucia)
- 7 country assessments
- over 300 “newbees” trained



*By Cooperativa de Trabajo Apícola Pamperp Ltda / Pests and Diseases*

**NEW ORGANIC TREATMENT FOR  
VARROA MITE, ALUEN CAP, ARRIVES  
TO THE CARIBBEAN**



# **ApiCaribe Preliminary (Needs) Analysis**

- Beekeepers' Support and Training
- Access to Tools and Materials
- Queens and Livestock Management
- Health Management
- Nutrition Management
- Production Management
- Quality Testing and Branding

# ApiCaribe 2024 - 2025

- **Third mission** - Trinidad & Tobago, St. Vincent & the Grenadines, Barbados, St. Lucia and Belize; 11/24 – 06/25

**Queen Rearing Training for over 100 beekeepers**



# ApiCaribe 2025 -

- **Fourth mission** – Antigua & Barbuda, Bahamas, Barbados, Belize, Grenada, Jamaica, St. Kitts & Nevis, St. Lucia, St. Vincent & the Grenadines and Trinidad & Tobago; October 2025

## Aluen Cap Varroa Mite Efficacy Trials

- **Trials to be conducted in 10 Caribbean countries**
- **Supported by:**



**UNS**  
UNIVERSIDAD  
NACIONAL DEL SUR



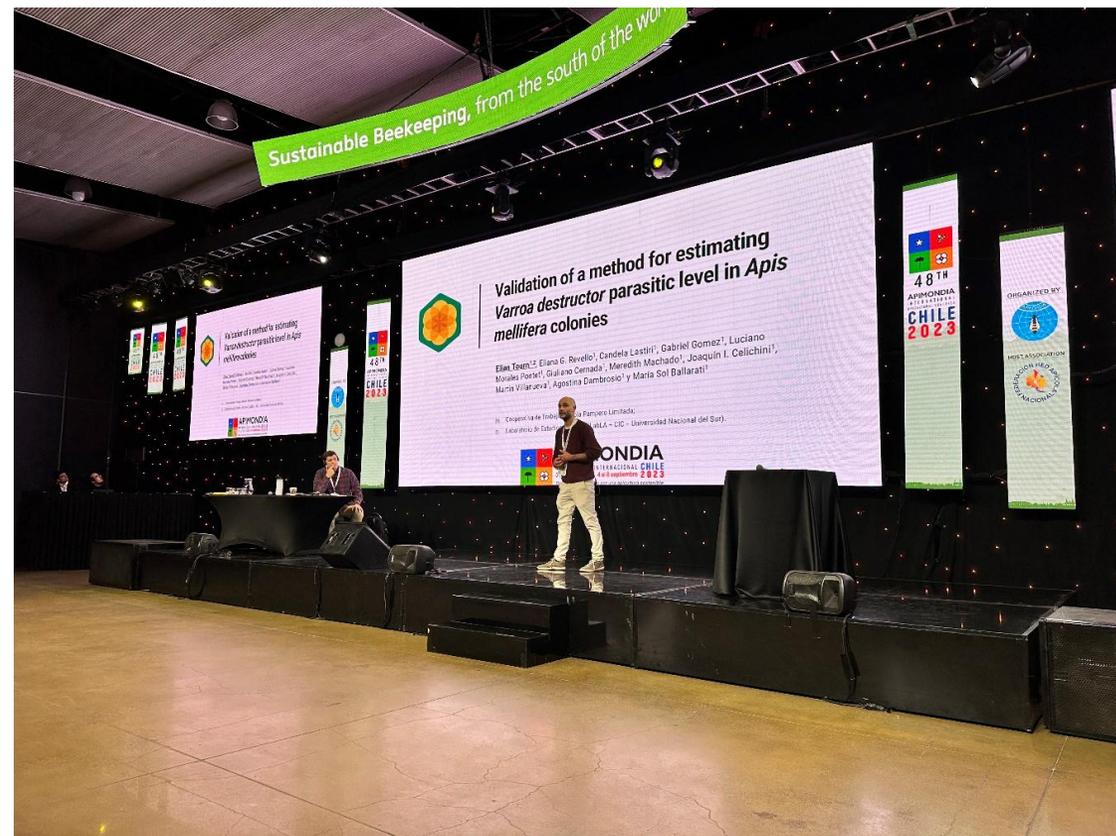
# Research Areas

- **Floral Rewards and Pollinators:** Study of nectar and pollen in crops such as sunflower, canola, tomato, and alfalfa, focusing on the quality and quantity of these rewards and their impact on pollinators like the honeybee.
- **Pollen Valorization and Conservation:** Development of protocols for processing and preserving pollen, ensuring its safety and health benefits.
- **Propolis-Based Biofungicides:** Research on the use of propolis solutions as biofungicides.
- **Nutritional Supplements for Bees:** Development of methodology for measuring digestibility in bees. Creation of probiotic nutritional supplements for bees, improving digestibility and pathogen control.
- **Animal Nutrition with Apicultural Products:** Use of apicultural products as nutritional supplements in animal feeding.

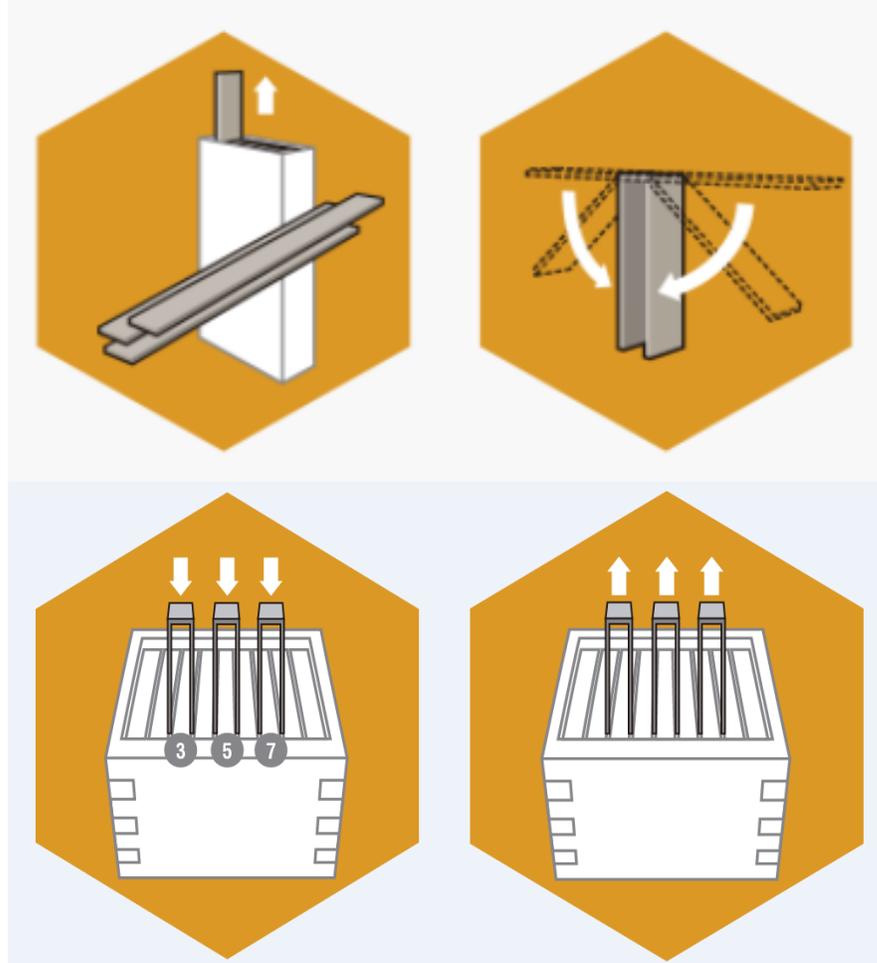
**Cooperativa Apícola Pampero (CAP); established in 2012**



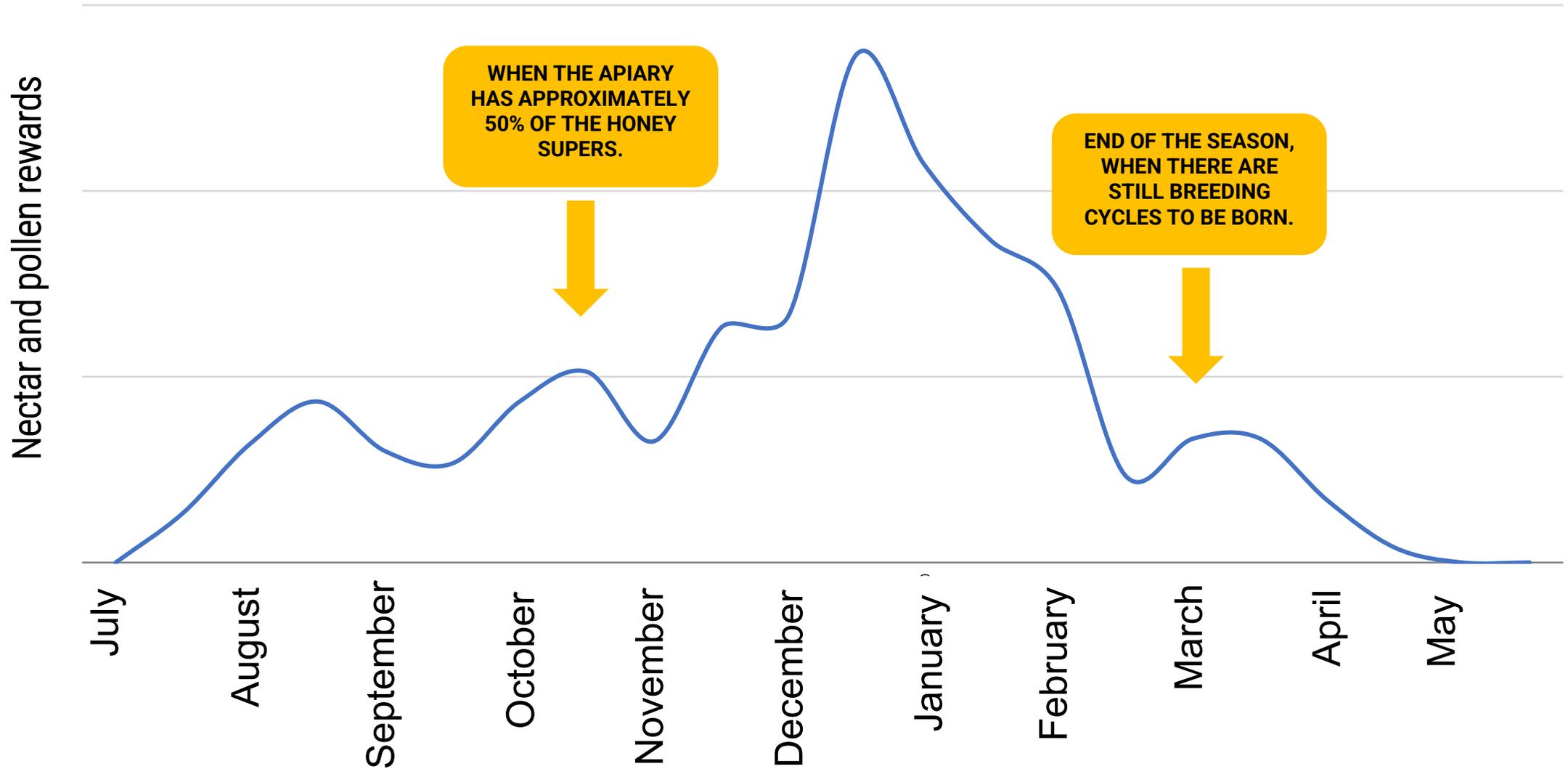
# Apimondia 2023

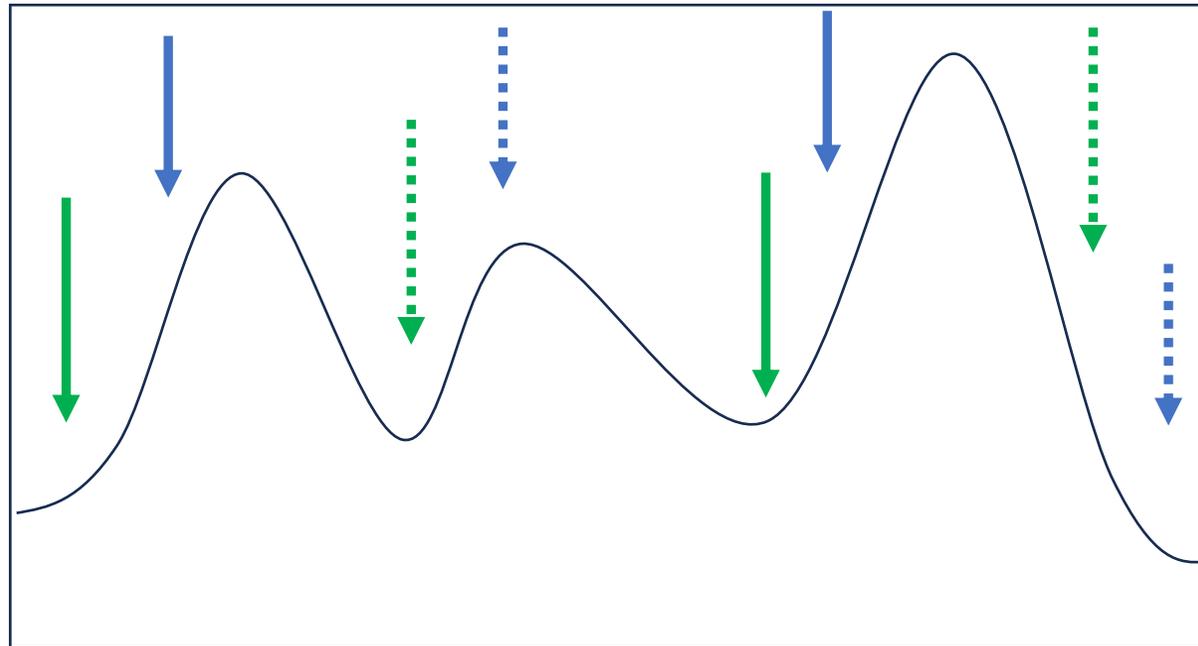
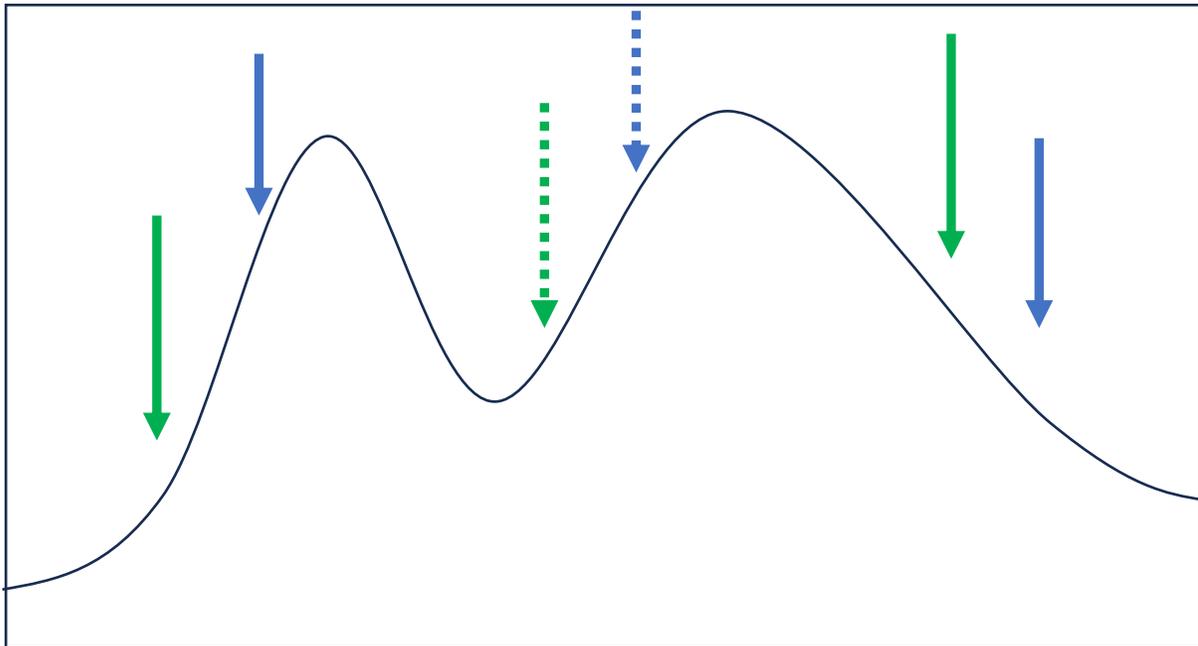
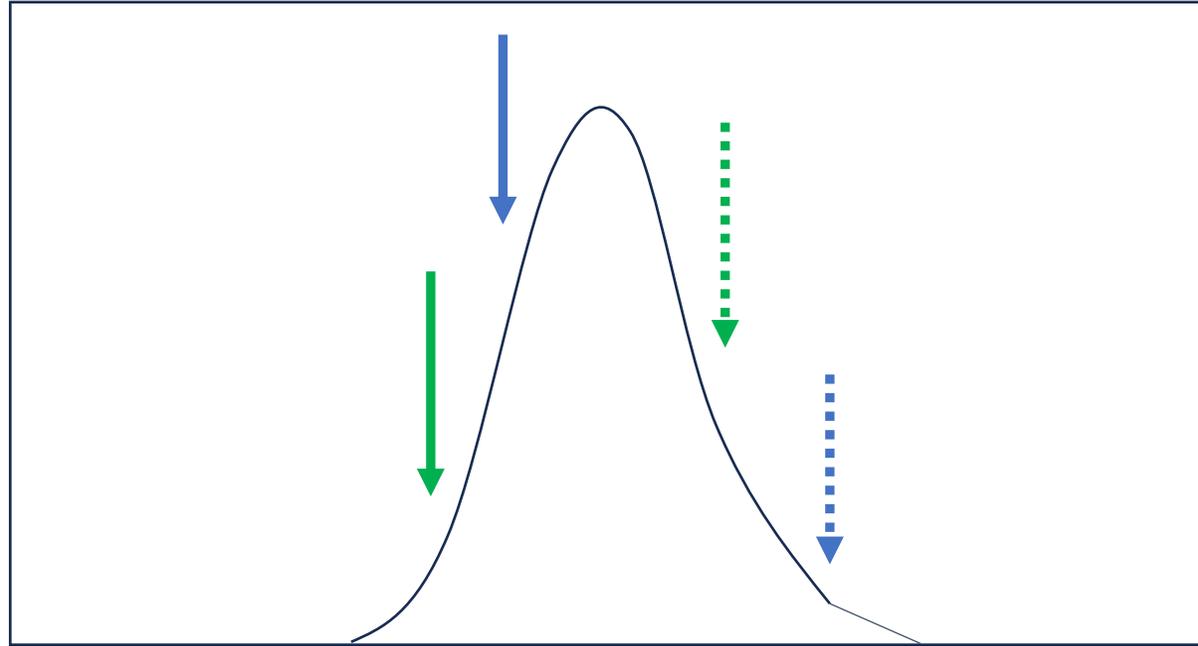
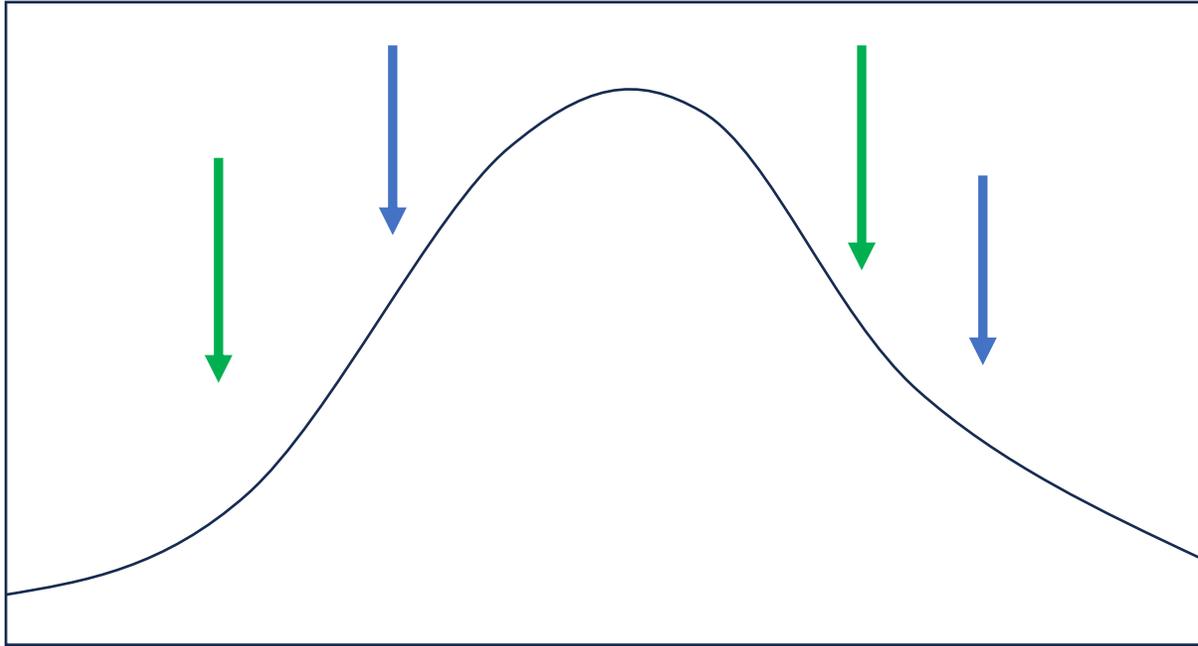


# Aluen CAP – How to use it?

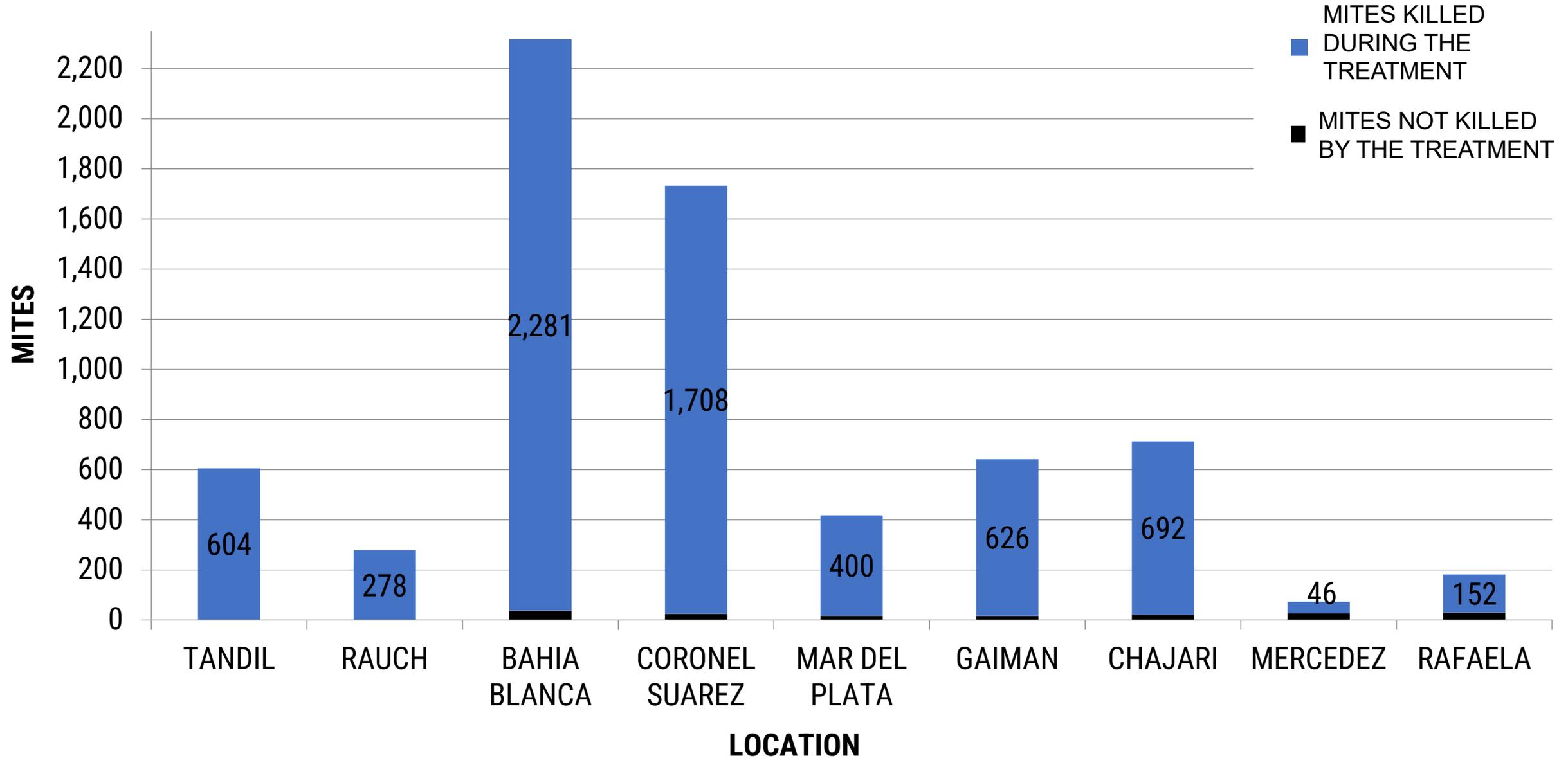


# When do we use Aluen Cap?





# Efficacy Trial



# Materials and Methods



# **Varroa Standard Research Fields Trials**

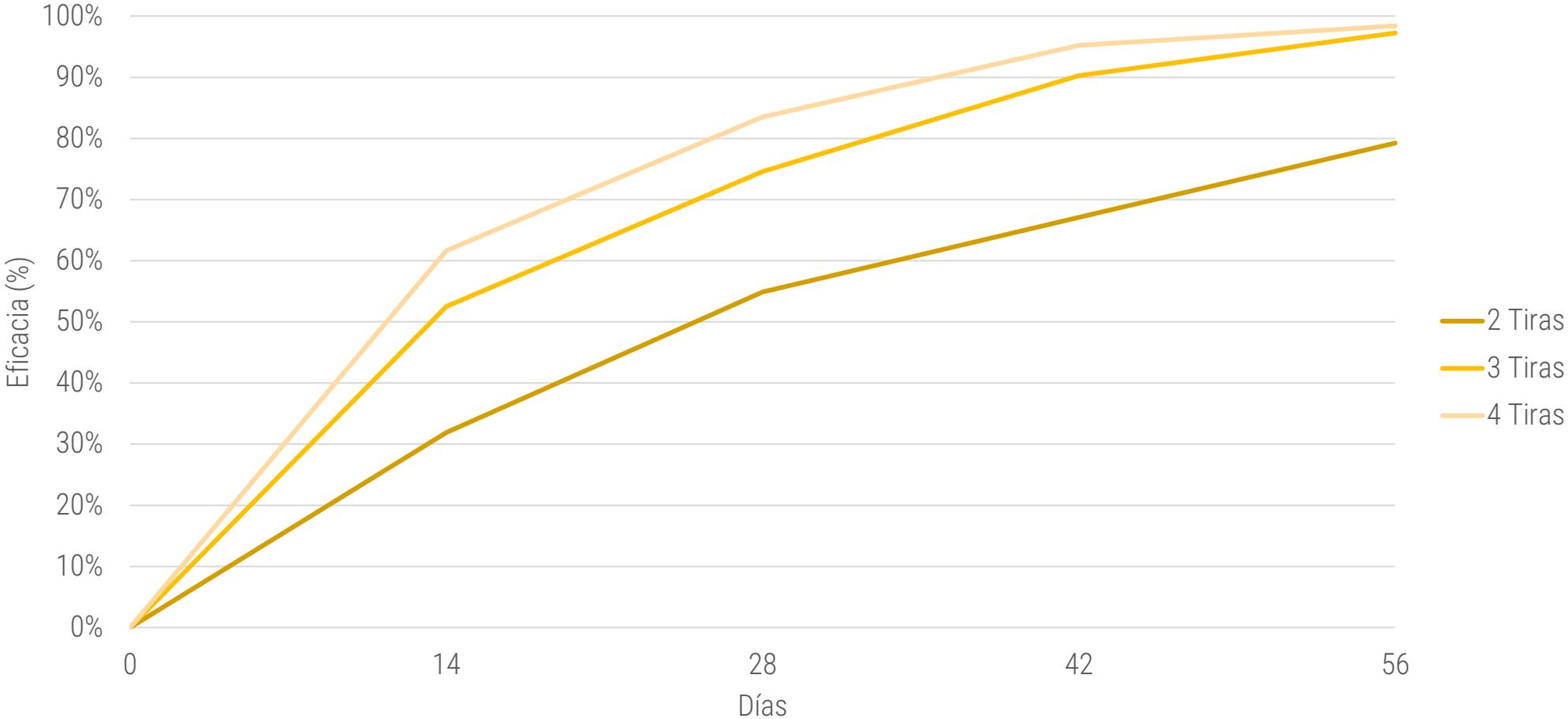
- Efficacy Trial
- Performance Trial

# Technical Floor

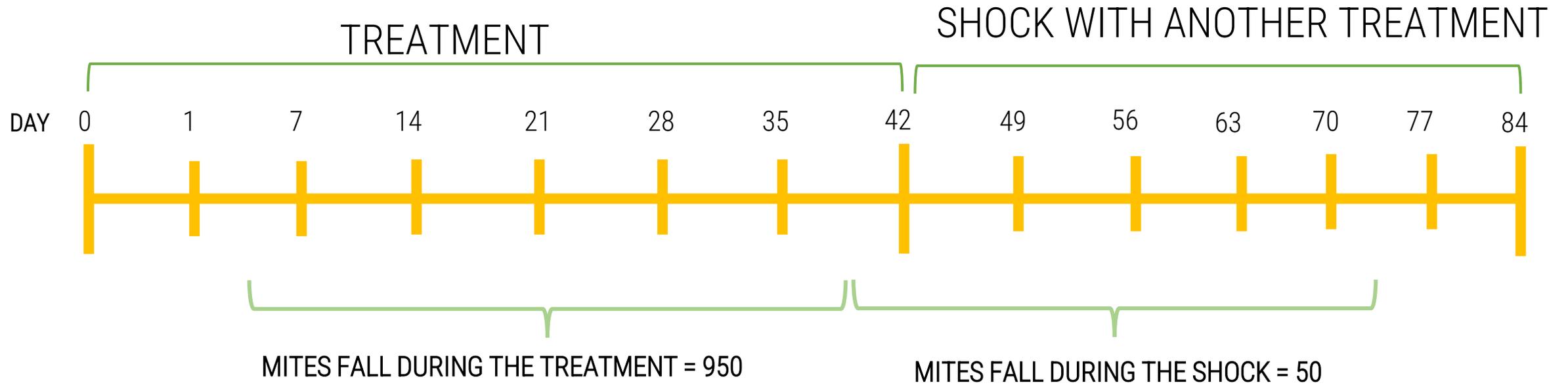
Treatment	Description
1	Control
2	Aluen CAP®
3	Control product



# Efficacy Speed



# Efficacy Trial



$$\text{EFFICACY} = \frac{\text{MITES FALL DURING THE TREATMENT}}{\text{TOTAL MITES (TREATMENT + SHOCK)}} = \frac{950}{1000} \times 100 = \boxed{95\%}$$

# Efficacy Trial



DAY	ACTIVITIES
-3	Equalization; Bee frames; Brood frames; Honey frames; Pollen frames; Infestation percentage.
0	Treatments application.
7	Fallen mites.
14	Fallen mites.
21	Fallen mites.
28	Fallen mites.
35	Fallen mites.
42	Chemical shock application; Fallen mites; Bee frames; Brood frames; Honey frames; Pollen frames; Infestation percentage.
49	Fallen mites.
56	Fallen mites.
63	Fallen mites.
70	Fallen mites.
77	Fallen mites.
84	Fallen mites.



# Efficacy Trial

**Day:** 7 / 14 / 21 / 28 /  
35 / 42 / 49 / 56 / 63 /  
70 / 77 / 84

Treatment	N°	Fallen mites	OBSERVATIONS
ALUEN CAP	1		
ALUEN CAP	2		
ALUEN CAP	3		
ALUEN CAP	4		
ALUEN CAP	5		
ALUEN CAP	6		
ALUEN CAP	7		
ALUEN CAP	8		
ALUEN CAP	9		
ALUEN CAP	10		
CONTROL P.	11		
CONTROL P.	12		
CONTROL P.	13		
CONTROL P.	14		
CONTROL P.	15		
CONTROL P.	16		
CONTROL P.	17		
CONTROL P.	18		
CONTROL P.	19		
CONTROL P.	20		
CONTROL	21		
CONTROL	22		
CONTROL	23		
CONTROL	24		
CONTROL	25		
CONTROL	26		
CONTROL	27		
CONTROL	28		
CONTROL	29		
CONTROL	30		



# Technical Sheet

	A	B	C	D	E	F
1						
2		<b>BEEKEEPING COMPANY / INSTITUTION (OWNER OF THE APIARY)</b>				
3						
4		<b>Company name:</b>	MAURO BARCELONA	<b>Start year:</b>	1998	
5		<b>Owner's Name:</b>	MAURO BARCELONA	<b>Number of hives:</b>	576	
6		<b>Locality:</b>	MERCEDES	<b>Type of management (fixed or transhumant):</b>	20 / 80%	
7		<b>Province:</b>	SORIANO	<b>Number of permanent staff:</b>	0	
8		<b>Country:</b>	URUGUAY	<b>Number of temporary staff:</b>	1	
9						
10						
11		<b>STUDY PARTICIPANTS</b>				
12						
13		<b>First and Last Names</b>	<b>Institution / Company</b>	<b>Position in the Institution / Company</b>	<b>Study Responsibilities</b>	
14		ELIAN TOURN	CAP	PRESIDENTE	COORDINACION	
15		GABRIEL GOMEZ	CAP	TESORERO	ASISTENCIA	
16		MAURO BARCELONA	MB	TITULAR	EJECUCION	
17		RAUL DE LEON	RL	TITULAR	ASISTENCIA	
18						
19						
20						
21						
22						
23						

COMPANY-INSTITUTION

MANAGEMENT

HEALTH PLAN

APIARY

SUMMARY

DAY 1

DAY 7

DAY 14

DAY 21

# Technical Sheet

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
2															
3		<b>MANAGEMENT PERFORMED (USUAL)</b>													
4															
5		<b>Activity</b>	<b>Unit</b>	<b>JUL</b>	<b>AUG</b>	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>
6		Movements	X												
7		Health treatments	X												
8		Energy complementation	Kg/hive/month									1,5	1,5		
9		Pollen complementation	Kg/hive/month												
10		Placement of supers	X			X									
11		Multiplication	Brood frames/hive/month				1								
12		Harvests	Kg/hive/month						20		10				
13															
14															
15															
16															

COMPANY-INSTITUTION

**MANAGEMENT**

HEALTH PLAN

APIARY

SUMMARY

DAY 1

DAY 7

DAY 14

DAY 21

DAY 28

DAY 35

DAY 42 A

DAY 4: ...



# Technical Sheet

	A	B	C	D	E	F	G	H
1								
2	<b>TREATMENTS USED (REGULAR HEALTH PLAN)</b>							
3								
4		<b>Date</b>	<b>Product</b>	<b>Active Ingredient</b>	<b>Dose per hive</b>	<b>Price per dose (USD)</b>	<b>Initial load</b>	<b>Final load</b>
5		OCTUBRE		OXALICO	4	0,48		
6		FEBRERO		OXALICO	4	0,48		
7		MAYO		AMITRAZ	2	0,2		
8								
9								
10								
11								
12								
13								

COMPANY-INSTITUTION | MANAGEMENT | **HEALTH PLAN** | APIARY | SUMMARY | DAY 1 | DAY 7 | DAY 14 | DAY 21 | DAY 28 | DAY 35 | DAY 42 A | DAY 4: ...

# Technical Sheet

## GENERAL INFORMATION

<b>Name of the establishment:</b>	LA ATALAYA		
<b>City:</b>	BIZCOCHO	<b>GPS position:</b>	-33.46003594926097, -57.98412812490939
<b>Province:</b>	SORIANO	<b>Start date:</b>	11/9/2025
<b>Country:</b>	URUGUAY	<b>End date:</b>	4/12/2025

## SURVEYED SPECIES

Scientific name	Common name	Family	Surface	Density	Nectar	Pollen
<i>Brassica napus</i>	COLZA	Brassicaceae	10	100		
<i>Schinus longifolius</i>	MOLLE	Anacardiaceae	10	20		
<i>Acacia caven</i>	ESPINILLO	Fabaceae	20	5		
<i>Glycine max</i>	SOJA	Fabaceae	40	100		
<i>Prosopis alba</i>	ALGARROBO	Fabaceae	20	20		
<i>Gleditsia triacanthos</i>	ACACIA	Fabaceae	20	60		
<i>Baccharis salicifolia</i>	CHILCA BLANCA	Asteraceae	20	10		

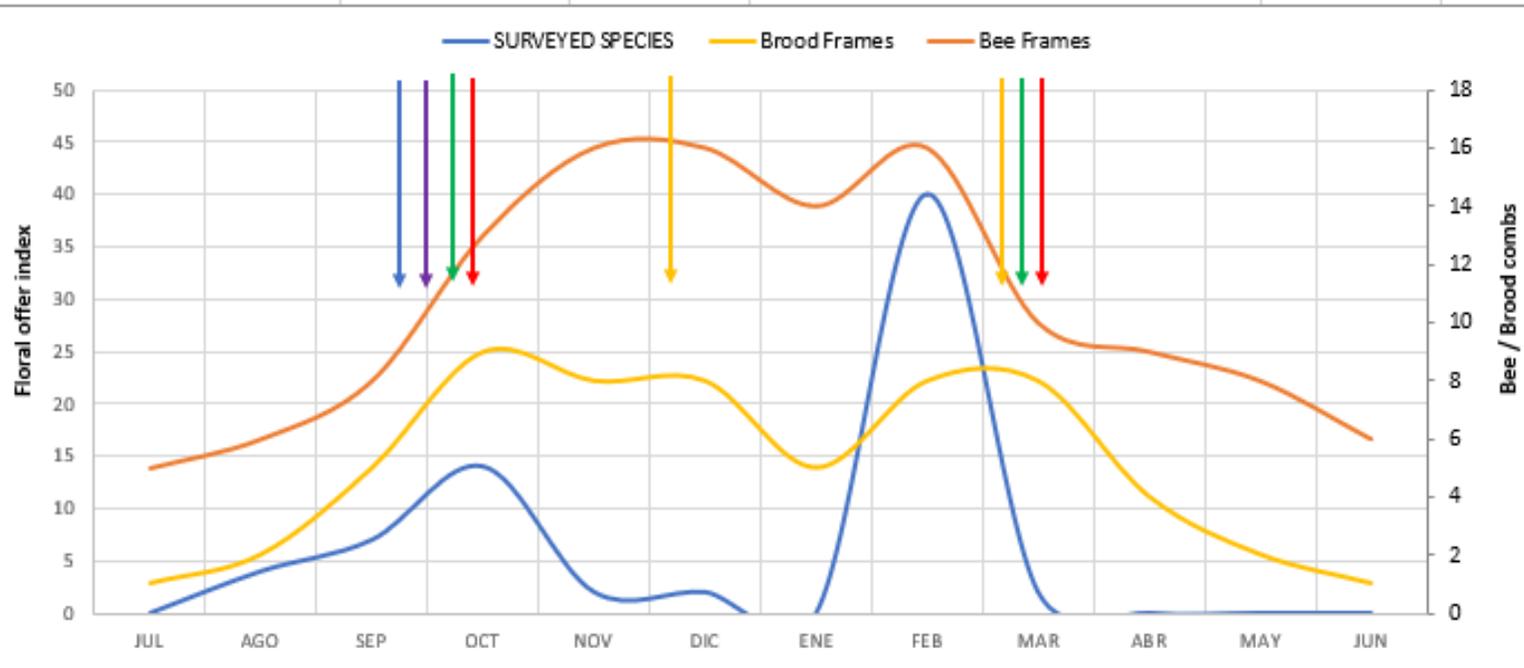
# Technical Sheet



# Technical Sheet

	A	B	C	D	E	F	G	H	I	J	K	L	M	N	O
25		<b>CALENDARIO FLORAL</b>													
26															
27		<b>Common name</b>	<b>JUL</b>	<b>AUG</b>	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DEC</b>	<b>JAN</b>	<b>FEB</b>	<b>MAR</b>	<b>APR</b>	<b>MAY</b>	<b>JUN</b>	
28		COLZA		40	60										
29		MOLLE				100									
30		ESPINILLO			100										
31		SOJA								100					
32		ALGARROBO					50	50							
33		ACACIA				100									
34		CHILCA BLANCA									100				
35															
36															
37															
38		<b>Bee Frames</b>	<b>5</b>	<b>6</b>	<b>8</b>	<b>13</b>	<b>16</b>	<b>16</b>	<b>14</b>	<b>16</b>	<b>10</b>	<b>9</b>	<b>8</b>	<b>6</b>	
39		<b>Brood Frames</b>	<b>1</b>	<b>2</b>	<b>5</b>	<b>9</b>	<b>8</b>	<b>8</b>	<b>5</b>	<b>8</b>	<b>8</b>	<b>4</b>	<b>2</b>	<b>1</b>	
40															
41		<b>Common name</b>	<b>JUL</b>	<b>AGO</b>	<b>SEP</b>	<b>OCT</b>	<b>NOV</b>	<b>DIC</b>	<b>ENE</b>	<b>FEB</b>	<b>MAR</b>	<b>ABR</b>	<b>MAY</b>	<b>JUN</b>	
42		COLZA		4	6										
43		MOLLE				2									
44		ESPINILLO			1										
45		SOJA								40					
46		ALGARROBO					2	2							
47		ACACIA				12									
48		CHILCA BLANCA									2				
49															
50															
51															
52		<b>TOTAL</b>	<b>0</b>	<b>4</b>	<b>7</b>	<b>14</b>	<b>2</b>	<b>2</b>	<b>0</b>	<b>40</b>	<b>2</b>	<b>0</b>	<b>0</b>	<b>0</b>	
53															

# Technical Sheet



- Multiplication
- Placement of supers
- Harvests
- Actual Health treatments
- CAP Health treatments recommendation

## AGROCHEMICALS

Type	Name	Crop	Month	Observations

# Technical Sheet

## SUMMARY

**BEF:** bee frames; **BRF:** brood frames; **HF:** honey frames; **PF:** pollen frames; **BJ:** bees in the jar; **MJ:** mites in the jar **%INF:** infestation percentage; **FM:** mites recolected from the bottom board; **AFM:** accumulated mites recolected from the bottom board; **MOR:** mites accumulated mortality.

DEVELOPMENT	Date			Average							DESVIO						
	Day	Scheduled:	Actual:	BEF	BRF	HF	PF	BJ	MJ	%INF	BEF	BRF	HF	PF	BJ	MJ	%INF
ALUEN	1	0/1/1900								0,00%							0,00%
	42	11/2/1900								0,00%							0,00%
CONTROL P.	1	0/1/1900								0,00%							0,00%
	42	11/2/1900								0,00%							0,00%

MITES	Date			Average									
	Day	Scheduled:	Actual:	FM	AFM	MOR							
ALUEN	7	7/1/1900											
	14	14/1/1900											
	21	21/1/1900											
	28	28/1/1900											
	35	4/2/1900											
	42	11/2/1900											

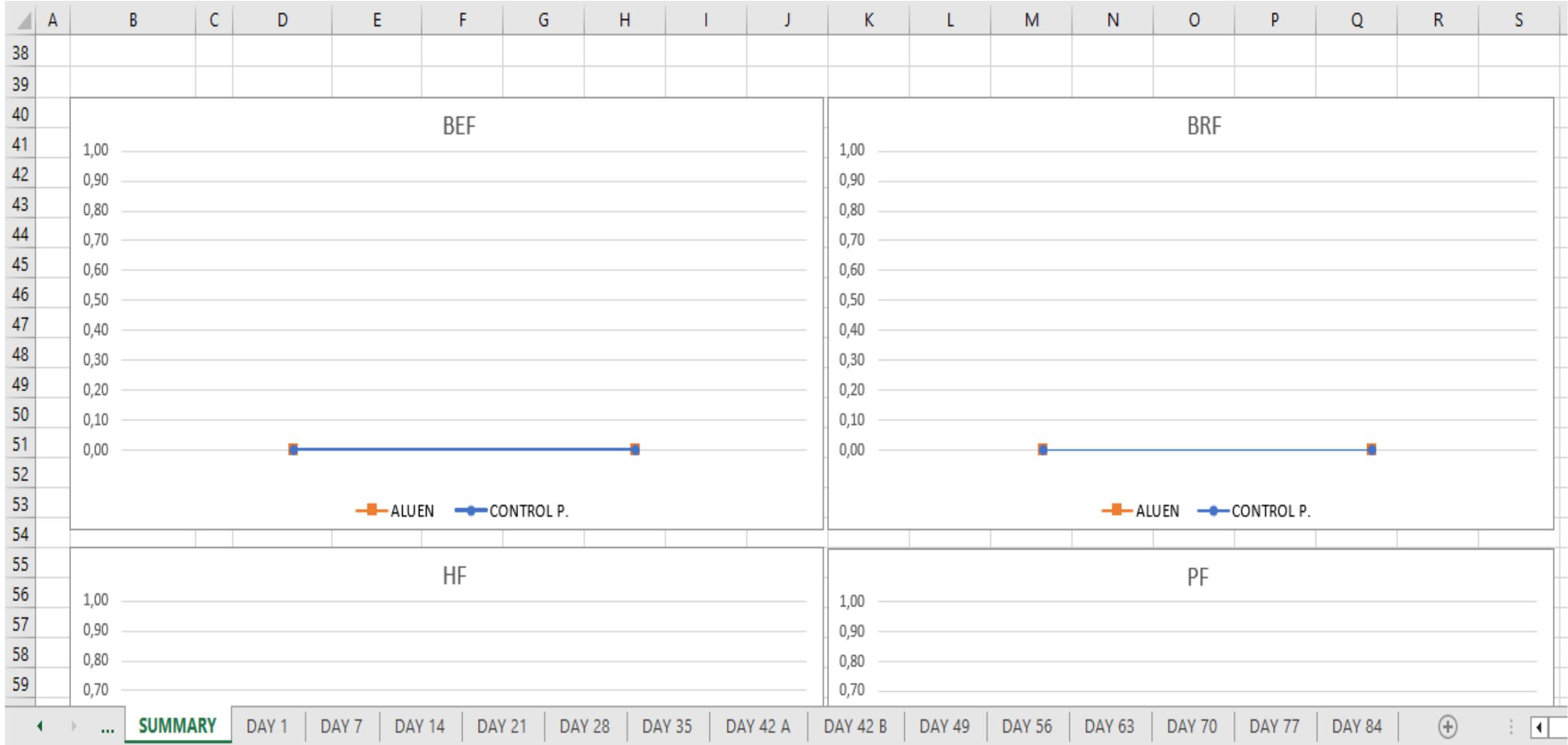
SUMMARY

DAY 1 | DAY 7 | DAY 14 | DAY 21 | DAY 28 | DAY 35 | DAY 42 A | DAY 42 B | DAY 49 | DAY 56 | DAY 63 | DAY 70 | DAY 77 | DAY 84

# Technical Sheet

	A	B	C	D	E	F	G	H	I	J	K	L		
1														
2		<b>SUMMARY</b>												
3														
4		<b>Treatment</b>	<b>Type</b>	<b>BEF</b>	<b>BRF</b>	<b>HF</b>	<b>PF</b>	<b>BJ</b>	<b>MJ</b>	<b>%INF</b>				
5		ALUEN	Average							0,00%				
6		CONTROL P.								0,00%				
7		ALUEN	Desvio							0,00%				
8		CONTROL P.								0,00%				
9														
10														
11		<b>FIELD SHEET</b>												
12														
13		<b>Day:</b>	1					<b>Apiary:</b>	LA ATALAYA					
14		<b>Temperature:</b>						<b>Scheduled date:</b>						
15		<b>Wind speed:</b>						<b>Actual date:</b>						
16		<b>Participants:</b>												
17														
18		<b>Treatment</b>	<b>N°</b>	<b>BEF</b>	<b>BRF</b>	<b>HF</b>	<b>PF</b>	<b>BJ</b>	<b>MJ</b>	<b>%INF</b>	<b>OBSERVATIONS</b>			
19		ALUEN	1							0,00%				
20		ALUEN	2							0,00%				
21		ALUEN	3							0,00%				
22		ALUEN	4							0,00%				
23		ALUEN	5							0,00%				
24		ALUEN	6							0,00%				
		...	SUMMARY	<b>DAY 1</b>	DAY 7	DAY 14	DAY 21	DAY 28	DAY 35	DAY 42 A	DAY 42 B	DAY 49	DAY 56	DA

# Technical Sheet





# Questions?

