POPULATION DYNAMICS OF VARIOUS INSECT PESTS IN BLUEBERRIES ORCHARDS WITHIN DIFFERENT CLIMATE REGIONS OF SOUTH AFRICA

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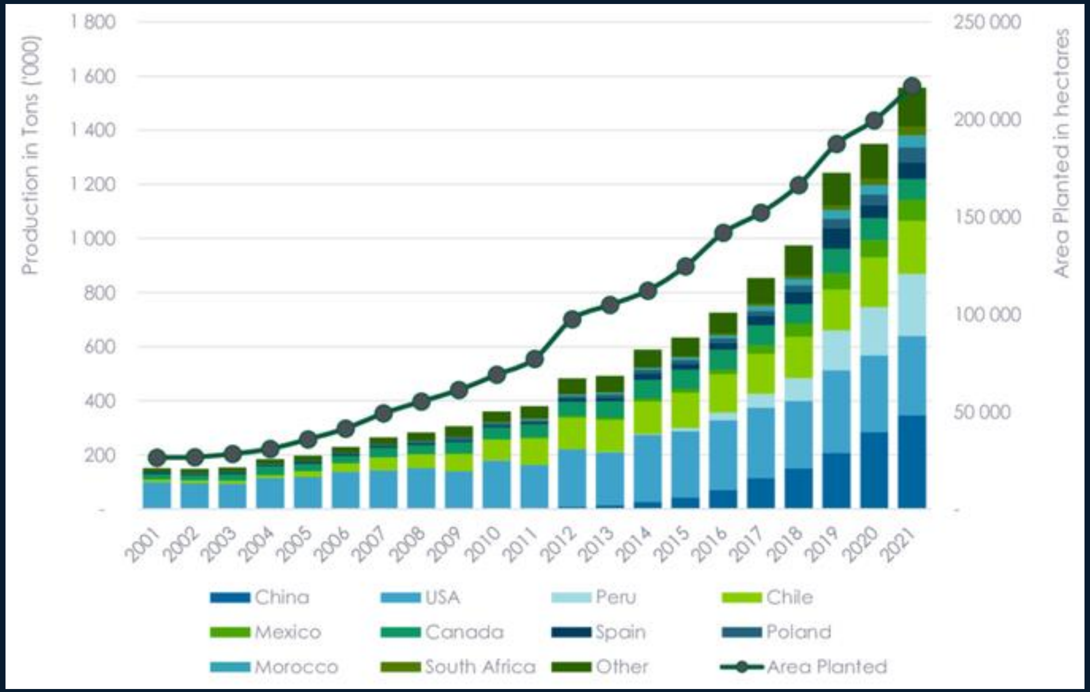
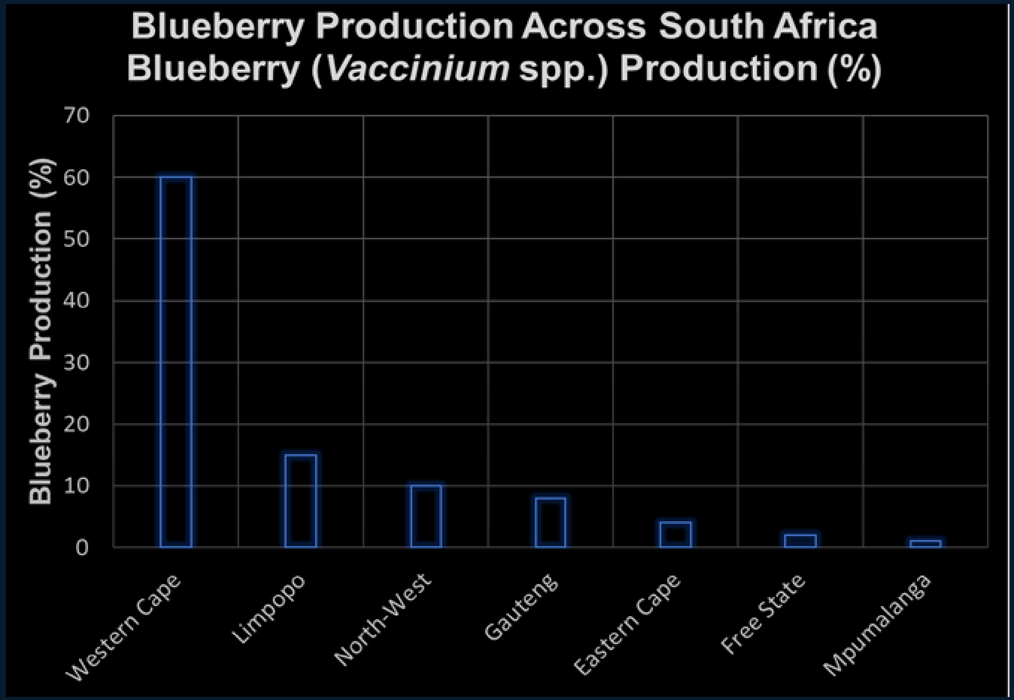
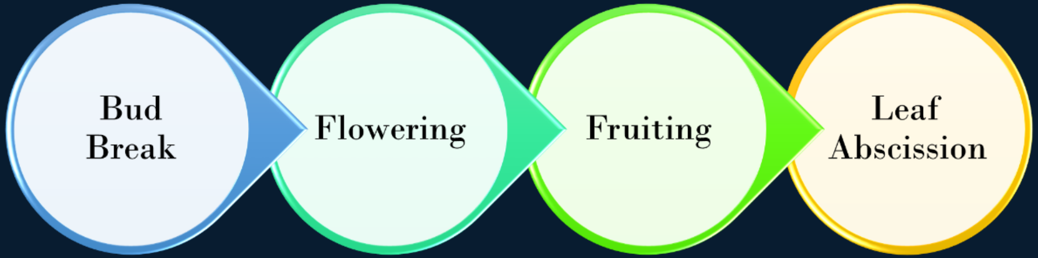
Co-Supervisor: Dr Francois (Gulu) Bekker

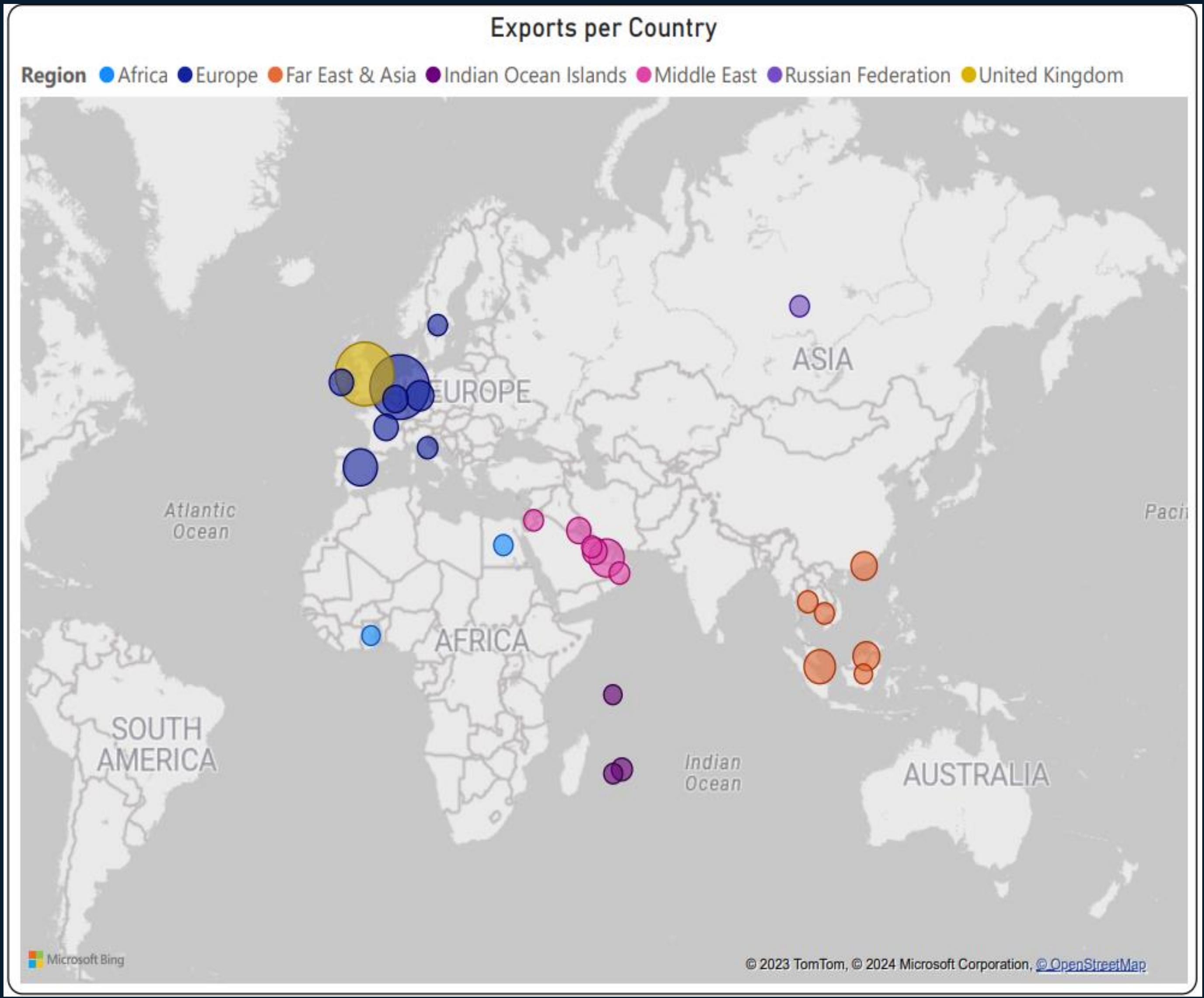
INTRODUCTION







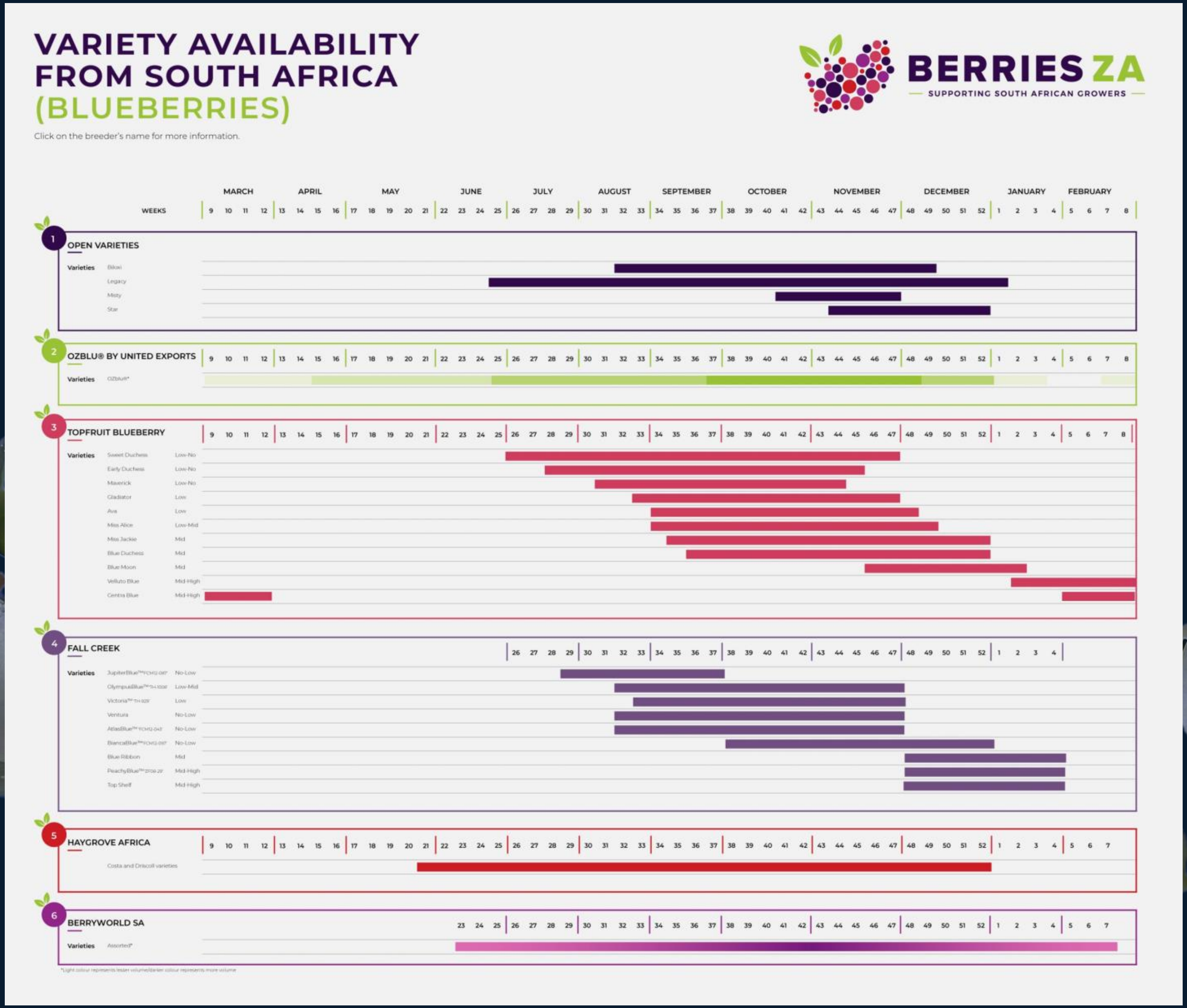
INTRODUCTION



YTD Export Growth % (22/23 vs 23/24)

Region	23/24	22/23	Diff%
Africa	8.46	0.27	3033.3%
Europe	9 915.57	14 878.40	-33.4%
Far East & Asia	1 480.21	1 268.15	16.7%
Indian Ocean Islands	44.48	19.54	127.6%
Middle East	2 124.99	1 357.53	56.5%
Other			
Russian Federation	11.63	0.97	1099.0%
United Kingdom	7 357.06	6 562.63	12.1%
USA & Canada			
Total	**20 942.40**	**24 087.49**	**-13.1%**

INTRODUCTION



INTRODUCTION

Current Pests

Greedy Scale

Grey Weevil

Banded Fruit Weevil

Sciobius Weevil

Western Flower Thrips

Mediterranean Fruit Fly

Black Snout Beetle

Mealybug

African Bollworm

AIM

Investigate the population dynamics of various insect pest in blueberries within different climatic regions of South Africa

LOCATION

CLIMATE ZONES	
Bwh	Hot Desert
Csb	Cool summer Mediterranean
Csa	Hot-summer Mediterranean
BSk	Cold Semi-Arid
Cwa	Warm Temperate
Cfb	Marine
Bsh	Hot Semi-Arid

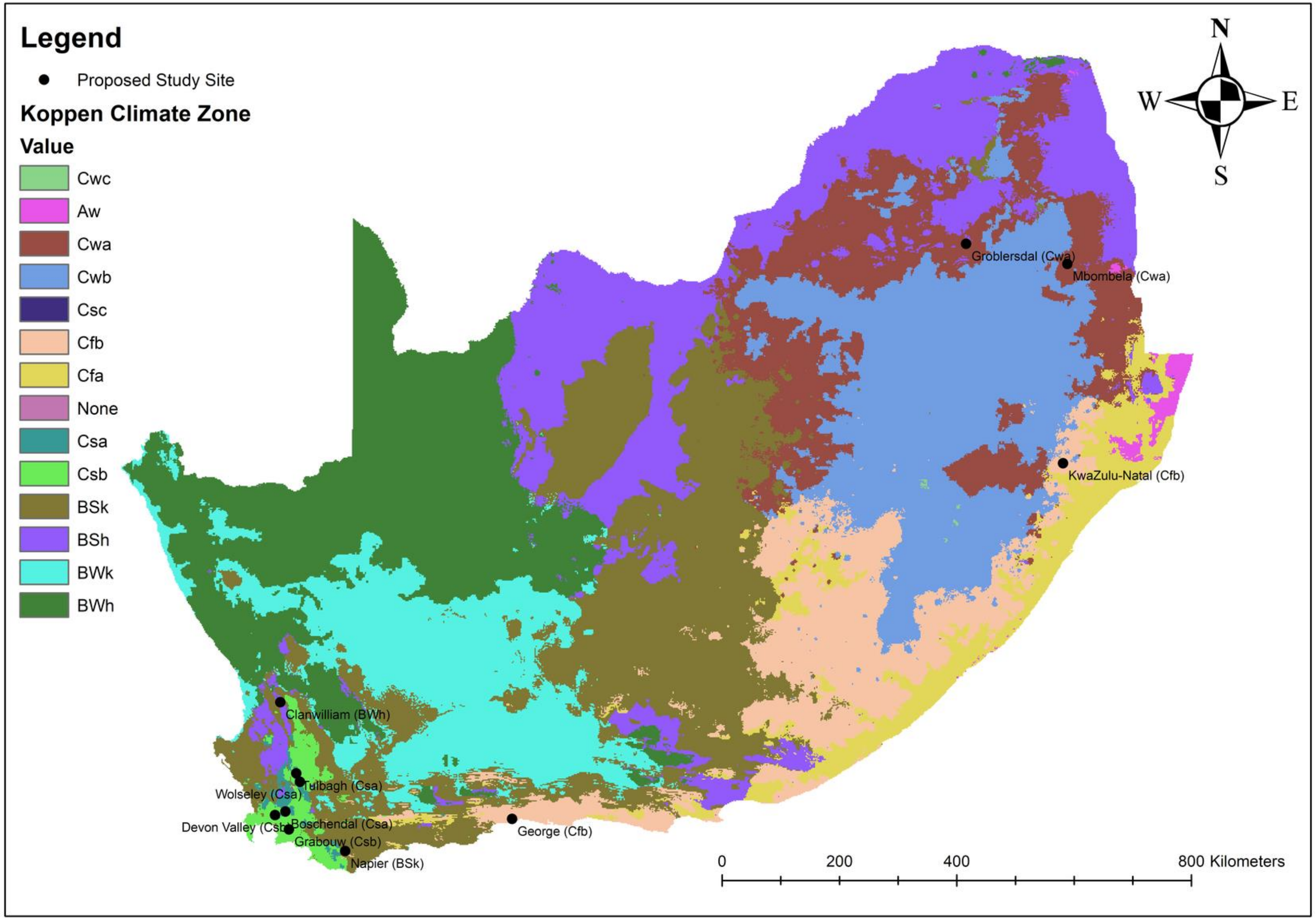


Figure 1. Map indicating locations and climate zones in which sampling was done.

METHODS

- Adapted from table grapes
- Traps and Lures
- Trapping method

A.B.W
PheroLure

RESULTS

TEPHRITIDAE

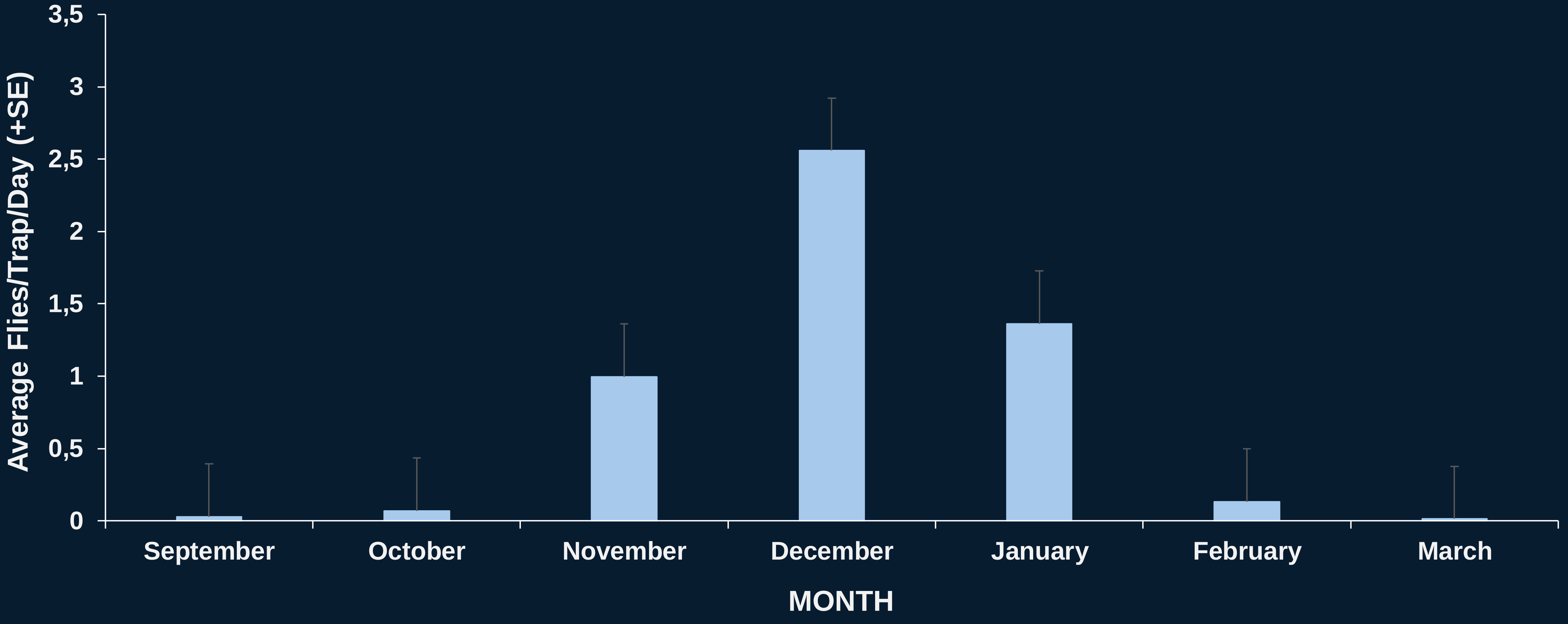
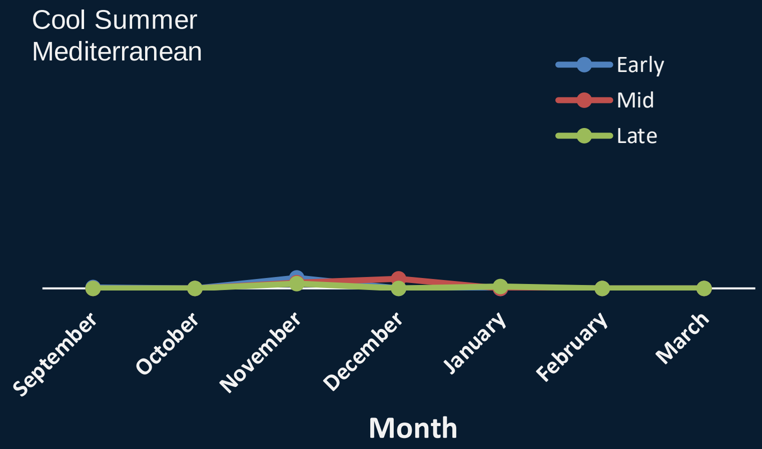
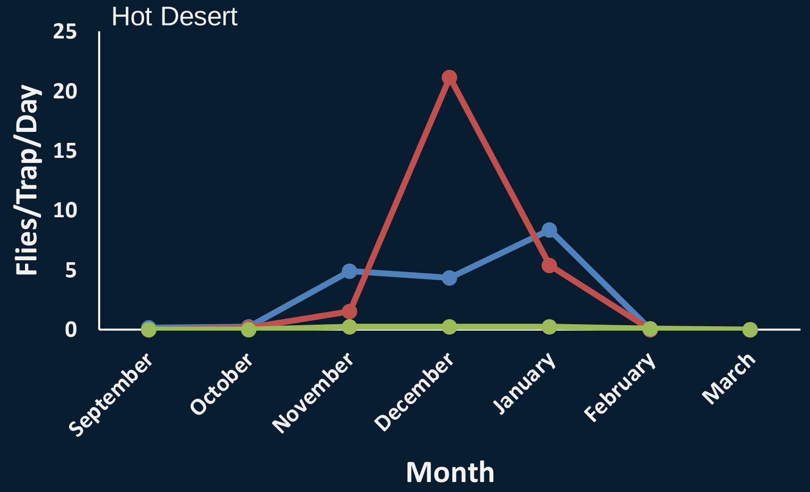


Figure 2. The average flies caught per trap per day in the Western Cape over a period of seven months.

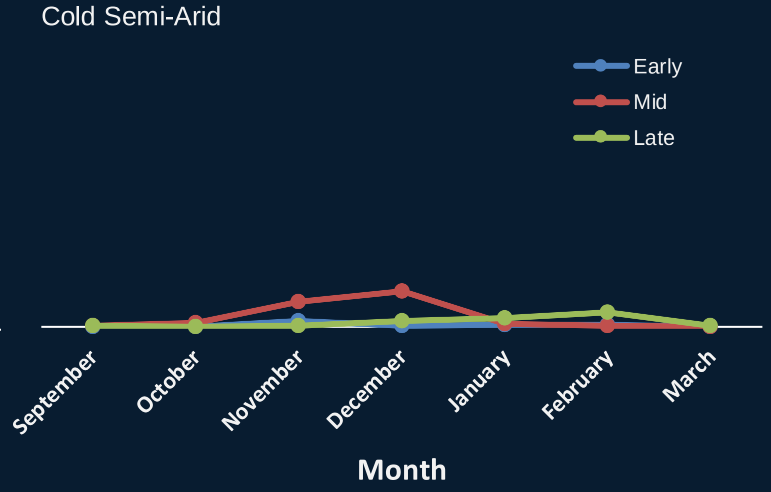
Species	SEP	OCT	NOV	DEC	JAN	FEB	MAR
C. quilicii	0.03	0.00	0.00	0.00	0.00	0.09	0.00



Species	SEP	OCT	NOV	DEC	JAN	FEB	MAR
C. capitata	0.00	0.32	5.57	3	2.76	0.04	0.08



Species	SEP	OCT	NOV	DEC	JAN	FEB	MAR
C. capitata	0.00	0.32	6.39	25.52	13.89	0.03	0.00
D. ciliatus	0.14	0.00	0.24	0.14	0.00	0.00	0.00



Species	SEP	OCT	NOV	DEC	JAN	FEB	MAR
C. capitata	0.22	0.36	2.61	3.57	1.09	1.45	0.13
C. rubivora	0.00	0.00	0.04	0.00	0.00	0.00	0.00

Figure 3. Illustrations indicating the flies caught per trap per day in various climatic regions. A) Csa, B) Csb, C) Bwh and D)BSk. Tables indicate species of Tephtitidae caught each month.

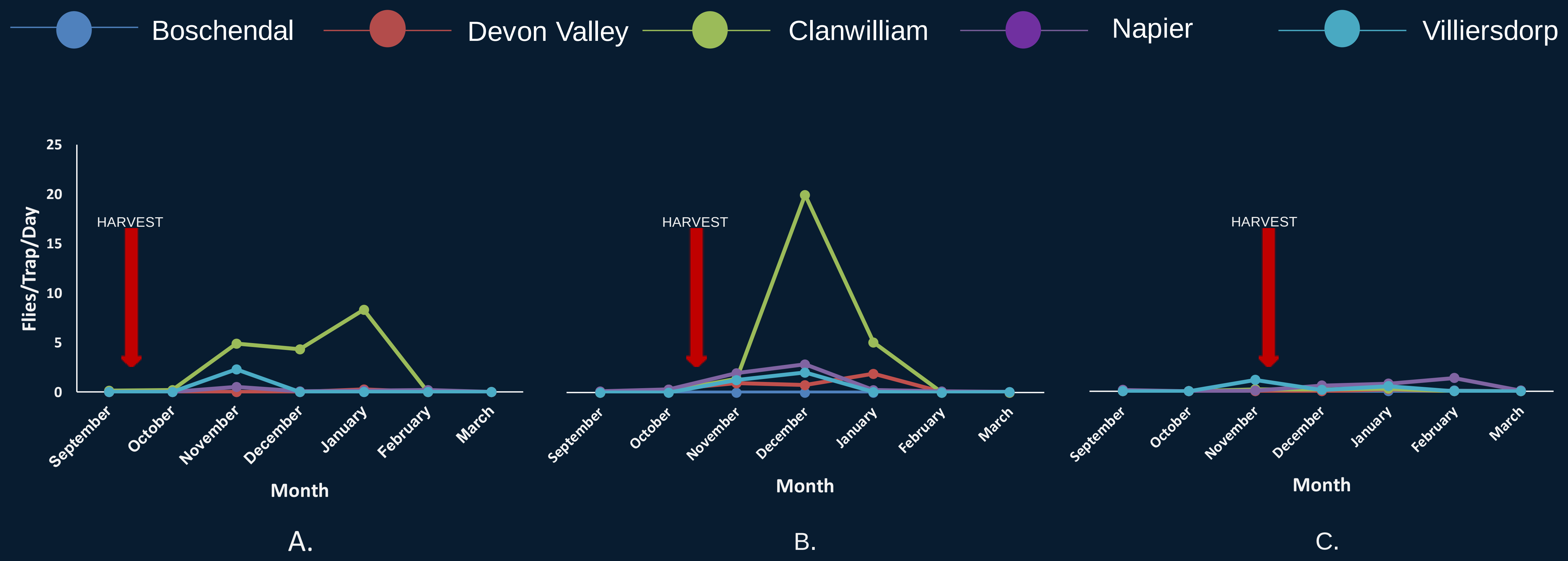


Figure 4. Graphic illustrations depicting the population dynamics of fruit flies caught per trap per day in five blueberry orchards, across four climatic regions, over a period of seven months in A) Early-Season, b)Mid-Season and C)Late-Season cultivars.

RESULTS

Helicoverpa armigera

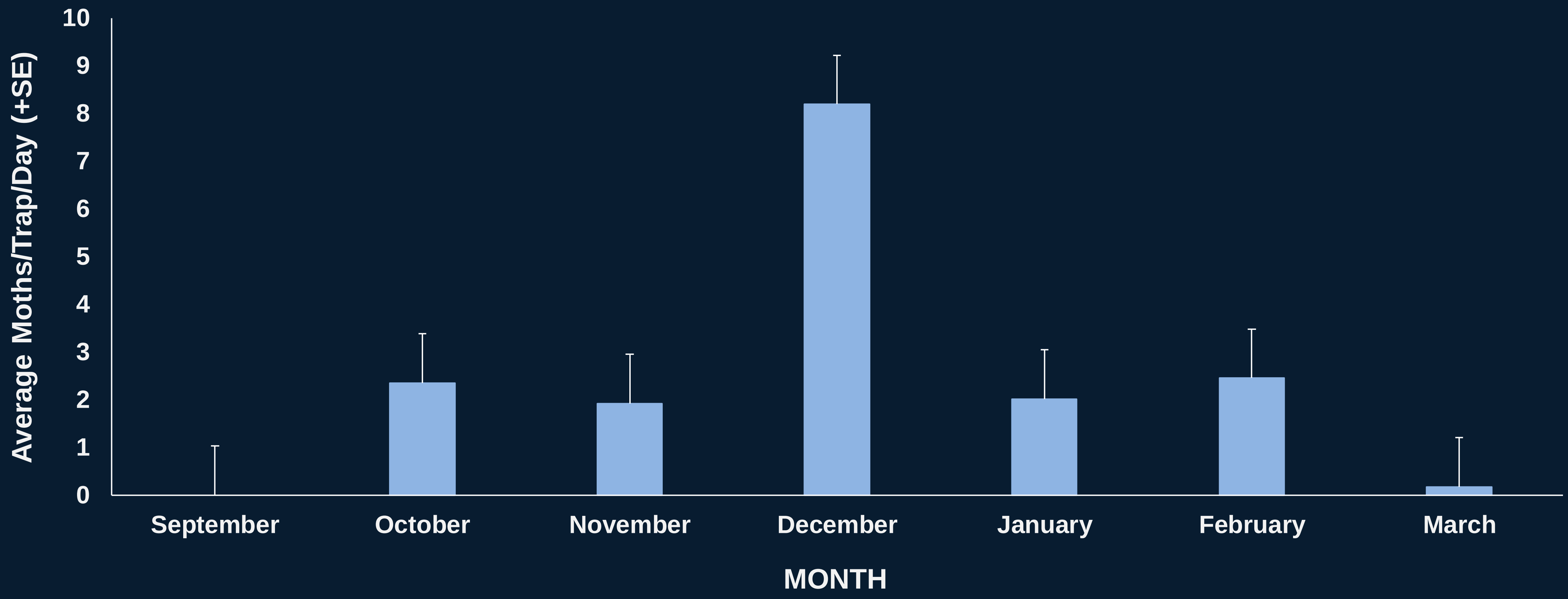


Figure 5. The average African Bollworm caught per trap per day in the Western Cape over a period of seven months

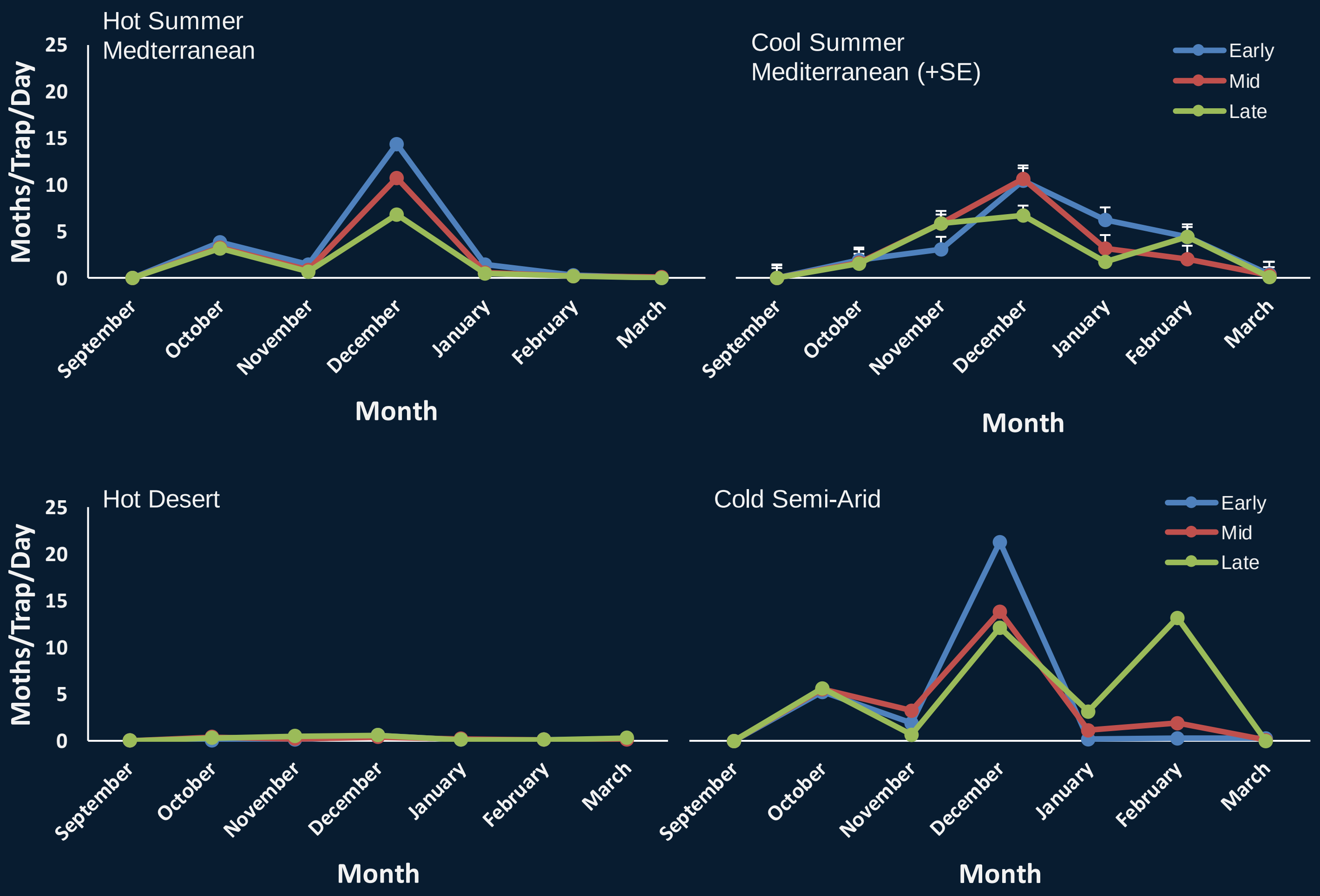


Figure 6. Illustrations indicating the number of African Bollworm caught per trap per day in various climatic regions. A) Csa, B) Csb, C) Bwh and D)BSk. Tables indicate species of Tephtitidae caught each month.

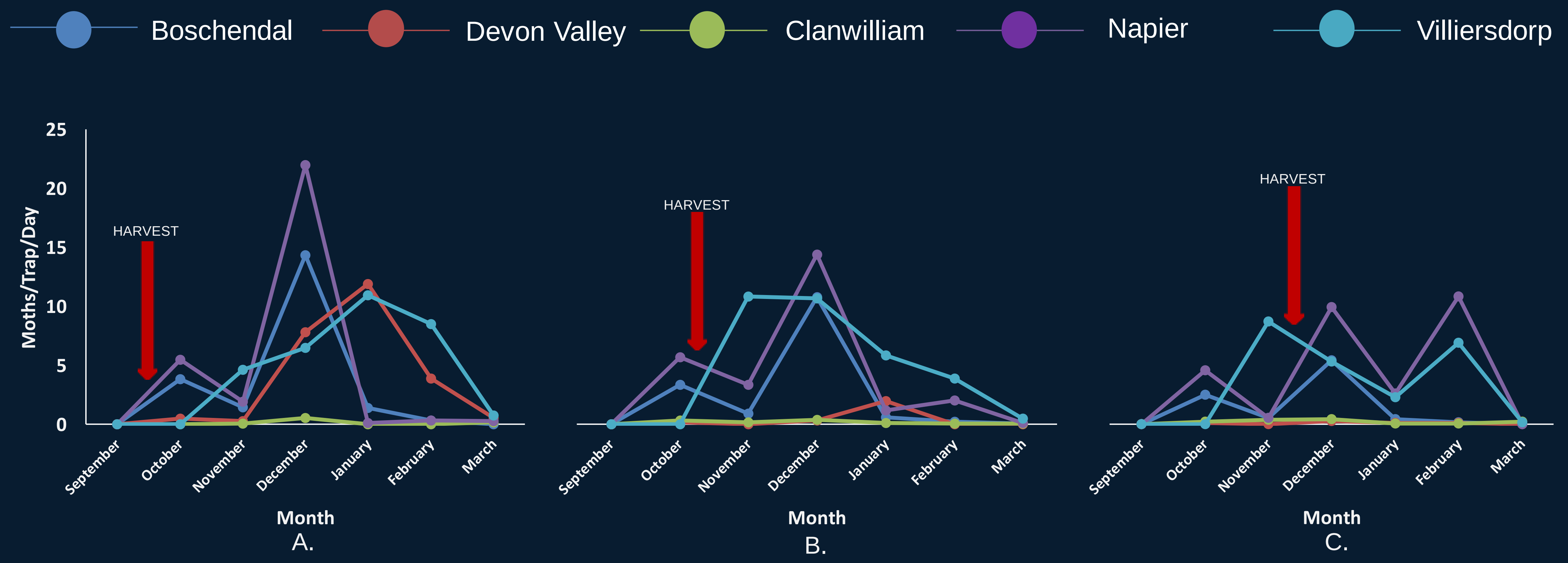
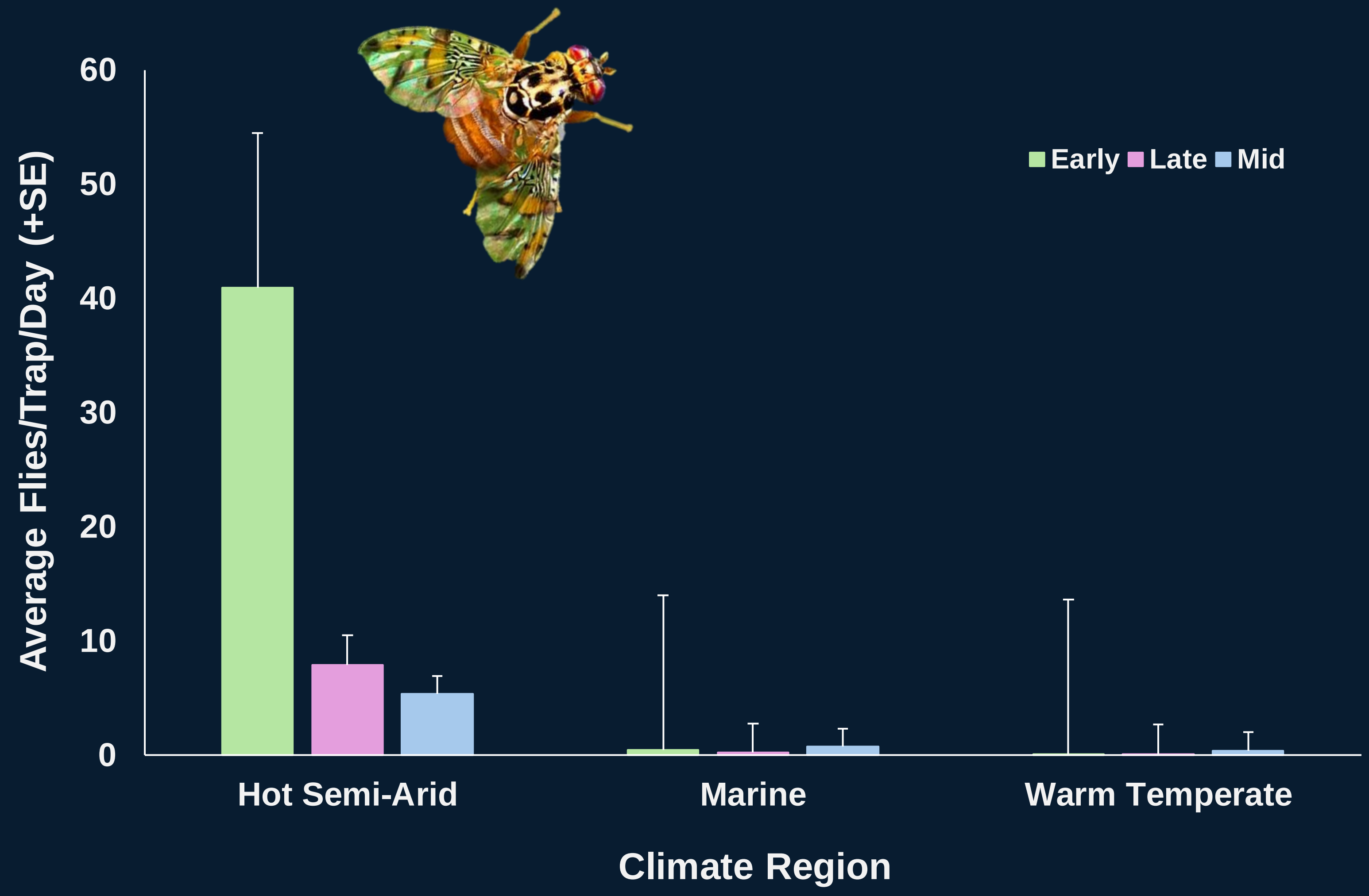


Figure 7. Graphic illustrations depicting the population dynamics of African Bollworm caught per trap per day in five blueberry orchards, across four climatic regions, over a period of seven months in A)Eary-Season, B)Mid-Season and C)Late-Season cultivars.

RESULTS

ADHOC ORCHARDS



SPECIES	Hot Semi-Arid	Marine	Warm Temperate
C. Capitata	52.34	8.57	1.02
C. quilicii / C. rosa	0.34	2.56	0.05
C. rubivora	0.12	0.32	0.00
C. cosyra	0.49	0.04	0.09
C. quinaria	0.03	0.00	0.00

Figure 8. Illustrations indicating the number of Tephritidae caught per trap per day in BSh, Cfb, and Cwa climate regions. Tables indicate species of Tephtitidae caught over the three-month monitoring period.

RESULTS

ADHOC ORCHARDS

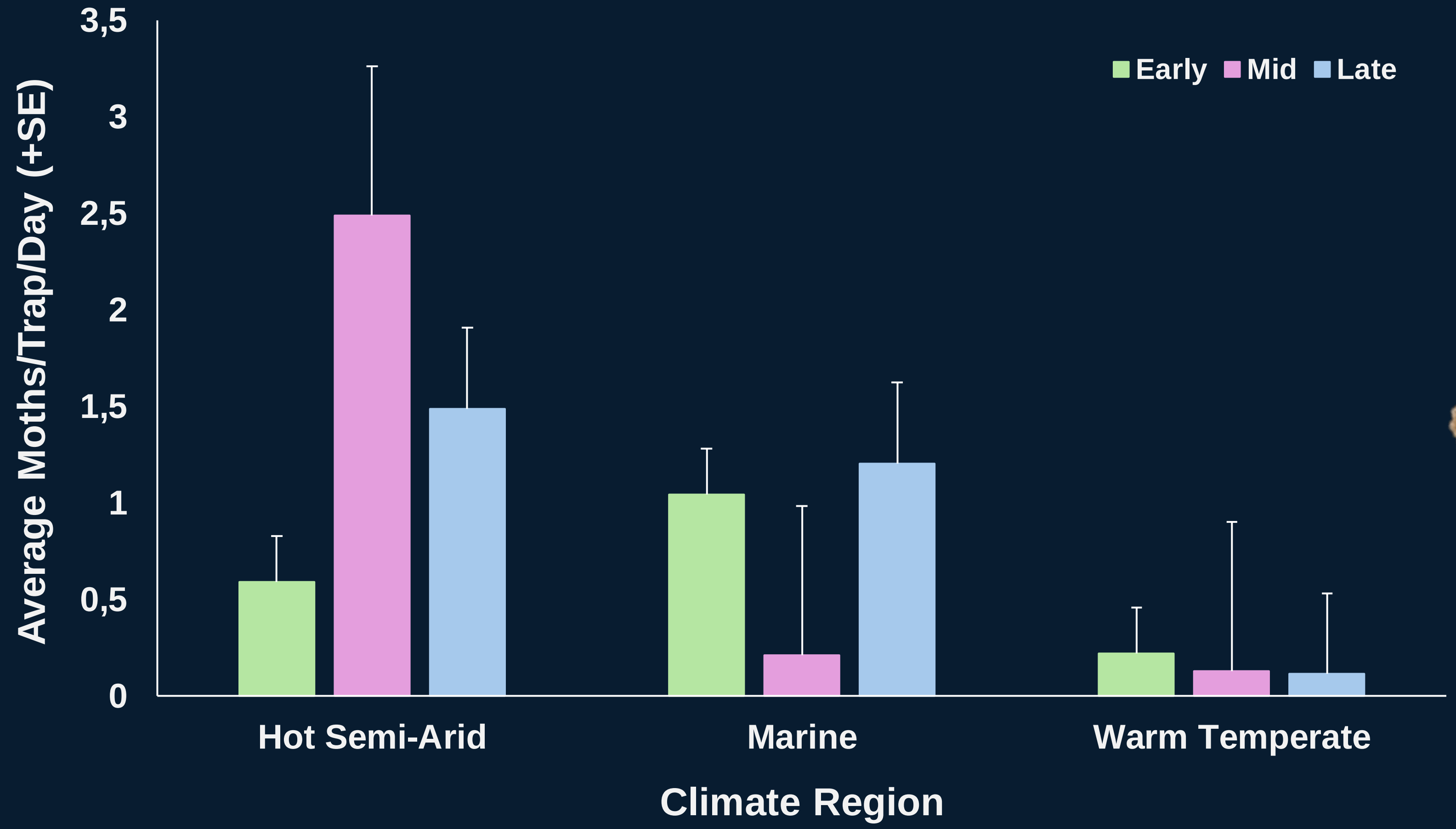


Figure 9. Illustrations indicating the number of African Bollworm caught per trap per day in BSh, Cfb, and Cwa climate regions over the three-month monitoring period.

DISCUSSION

- Tephritidae and *Helicoverpa armigera* tend to have their highest populations in warmer climatic regions.
- *Ceratitis capitata* was predominantly caught across South Africa.
- These results, coupled with previous fruit damage assessments shows that *C. capitata* does not seem to threaten the blueberry production.

ACKNOWLEDEMENTS

BERRIES ZA
SUPPORTING SOUTH AFRICAN GROWERS

FALL CREEK

Stellenbosch
UNIVERSITY
IYUNIVESITHI
UNIVERSITEIT

Professor Pia Addison
&
Dr Francois (Gulu) Bekker

Blueberry Growers Across South Africa

THANK YOU!
ENKOSI!
DANKIE!

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