

**Supplementary Table S1.** Total number of egg masses collected, total number of *Telenomus remus* recovered, and parasitism of *Spodoptera frugiperda* egg masses under different treatments in 2020.

Treatment	No. of Egg masses collected		No. of parasitoids		No. of Egg masses parasitized		Overall parasitism (%)	
	2020A	2020B	2020A	2020B	2020A	2020B	2020A	2020B
<b>Lira</b>								
Amdocs®	12	3	113	20	6	2	50.0	66.7
Rocket®	11	2	65	0	1	0	9.1	0.0
<i>Beauveria bassiana</i>	19	2	0	12	0	1	0.0	50.0
<i>Metarhizium anisopliae</i>	11	6	16	23	1	1	9.1	16.7
Nimbecidine®	11	6	0	30	0	1	0.0	16.7
Control	2	7	14	0	2	0	100.0	0.0
<b>Wakiso</b>								
Amdocs®	19	14	77	0	3	0	15.8	0.0
Rocket®	16	7	32	0	3	0	18.8	0.0
<i>Beauveria bassiana</i>	14	6	140	0	5	0	35.7	0.0
<i>Metarhizium anisopliae</i>	15	8	22	25	2	2	13.3	25.0
Nimbecidine®	17	7	103	0	5	0	29.4	0.0
Control	11	3	63	0	2	0	18.2	0.0

The letters A and B after a year denote first and second rainy season, respectively.

**Supplementary Table S2.** Total number of egg masses collected, total number of *Telenomus remus* recovered, and parasitism of *Spodoptera frugiperda* egg masses under different treatments in 2021.

Treatment	No. of Egg masses collected		No. of parasitoids		No. of Egg masses parasitized		Overall parasitism (%)	
	2021A	2021B	2021A	2021B	2021A	2021B	2021A	2021B
<b>Lira</b>								
Amdocs®	5	2	0	0	0	0	0.0	0.0
Roket®	0	9	0	0	0	0	0.0	0.0
<i>Beauveria bassiana</i>	3	5	0	0	0	0	0.0	0.0
<i>Metarhizium anisopliae</i>	2	6	10	0	1	0	50.0	0.0
<i>Metarhizium anisopliae</i> icipe 7	4	4	0	0	0	0	0.0	0.0
<i>Metarhizium anisopliae</i> icipe 78	5	4	0	0	0	0	0.0	0.0
General Biopesticide Cocktail	6	0	30	0	1	0	16.7	0.0
Nimbecidine®	4	4	0	0	0	0	0.0	0.0
Control	6	8	0	0	0	0	0.0	0.0
<b>Wakiso</b>								
Amdocs®	2	0	0	0	0	0	0.0	0.0
Roket®	1	6	20	0	1	0	100.0	0.0
<i>Beauveria bassiana</i>	7	3	0	0	0	0	0.0	0.0
<i>Metarhizium anisopliae</i>	2	6	0	0	0	0	0.0	0.0
<i>Metarhizium anisopliae</i> icipe 7	1	1	0	0	0	0	0.0	0.0
<i>Metarhizium anisopliae</i> icipe 78	1	3	0	0	0	0	0.0	0.0
General Biopesticide Cocktail	4	2	0	0	0	0	0.0	0.0
Nimbecidine®	2	4	0	0	0	0	0.0	0.0
Control	2	7	22	0	2	0	100.0	0.0

The letters A and B after a year denote first and second rainy season, respectively.

**Supplementary Table S3.** Total number of larvae collected, total number of larval parasitoids recovered, and parasitism of *Spodoptera frugiperda* larvae under different treatments Lira and Wakiso during the long and short rainy season of 2020.

Treatment and district	No. of larvae collected		No. of parasitoids		Overall parasitism (%)		2020A							2020B		
	2020A	2020B	2020A	2020B	2020A	2020B	Chd	Chs	Col	Cos	Coi	Mic	Tas	Chd	Col	CosCoi
<b>Lira</b>																
Amdocs®	4	9	1	0	25	0	25									
<i>Beauveria bassiana</i>	14	47	0	0	0	0										
Control	50	52	0	2	0	3.8								1.9		1.9
<i>Metarhizium anisopliae</i>	31	48	0	0	0	0										
Nimbecidine®	23	28	0	0	0	0										
Roket®	18	19	0	0	0	0										
<b>Wakiso</b>																
Amdocs®	7	6	3	0	42.9	0		14.3			14.3	14.3				
<i>Beauveria bassiana</i>	51	35	29	4	27.4	11.5	3.9	7.8	9.8		3.9	2.0			8.6	2.9
Control	94	46	13	4	17.1	8.7	1.1	1.1	3.2	9.6	2.1			2.2	4.3	2.2
<i>Metarhizium anisopliae</i>	52	40	12	0	23.0	0	3.8	11.5	5.8		1.9					
Nimbecidine®	58	28	13	0	22.3	0		3.4	8.6	3.4	6.9					
Roket®	21	12	5	0	23.8	0	9.5		4.8		9.5					

Chd = *Charops cf. diversipes*; Chs; *Chelonus sp*; Col = *Coccygidium luteum*; Cos = *Coccygidium sp*; Coi = *Cotesia icipe*; Mic = *Micranisa sp*; Tas = Tachinidae. The letters A and B after a year denote first and second rainy season, respectively.

**Supplementary Table S4.** Total larvae collected, number of larval parasitoids recovered, and parasitism of *Spodoptera frugiperda* larvae under different treatments in Lira and Wakiso during the long and short rainy season in 2021.

District and Treatment	No. of FAW larvae collected		No. of parasitoids		Parasitism (%)		2021A					2021B				
	21A	21B	21A	21B	21A	21B	Chs	Col	Cos	Coi	Tas	Chd	Chs	Col	Coi	Tas
<b>Lira</b>																
Amdocs®	22	28		1	0	3.6						3.6				
Rocket®	43	67		3	0	4.5							1.5		3	
<i>Beauveria bassiana</i>	43	110	1	3	2.3	2.7				2.3						2.7
<i>Metarhizium anisopliae</i>	62	107	1	3	1.6	2.7					1.6	0.9				1.8
<i>Metarhizium anisopliae</i> ICIPE 7	44	88		4	0	4.5										4.5
<i>Metarhizium anisopliae</i> ICIPE 7851		124		3	0	2.4										2.4
General Biopesticide Cocktail	49	113		4	0	3.6					0.9					2.7
Nimbecidine®	28	81		2	0	2.4										2.4
Control	62	98	1	2	1.6	2	1.6						1			1
<b>Wakiso</b>																
Amdocs®	11	25	0	0	0	0										
Rocket®	13	33	0	1	0	3.0										3.0
<i>Beauveria bassiana</i>	37	44	1	2	2.7	6.8	2.7							4.5		2.3
<i>Metarhizium anisopliae</i>	38	47	5	3	13.1	4.5		2.6	7.9		2.6				4.5	
<i>Metarhizium anisopliae</i> ICIPE 7	29	46	0	1	0	2.2						2.2				
<i>Metarhizium anisopliae</i> ICIPE 7816		59	1	2	6.3	3.4					6.3	3.4				
General Biopesticide Cocktail	34	55	3	0	8.7	0	2.9	2.9	2.9							
Nimbecidine®	37	53	1	1	16.2	1.9		8.1	8.1							1.9
Control	40	58	3	4	7.5	6.8		7.5				3.4	1.7	1.7		

Chs= *Chelonus* sp; Col = *Coccygidium luteum*; Cos = *Coccygidium* sp; Coi = *Cotesia icipe*; Tas = *Tachinidae*; Chd = *Charops cf. diversipes*. The letters A and B after a year denote first and second rainy season, respectively.