BMSB Rearing: Knowledge Needed to Maintain Consistent Colony Production

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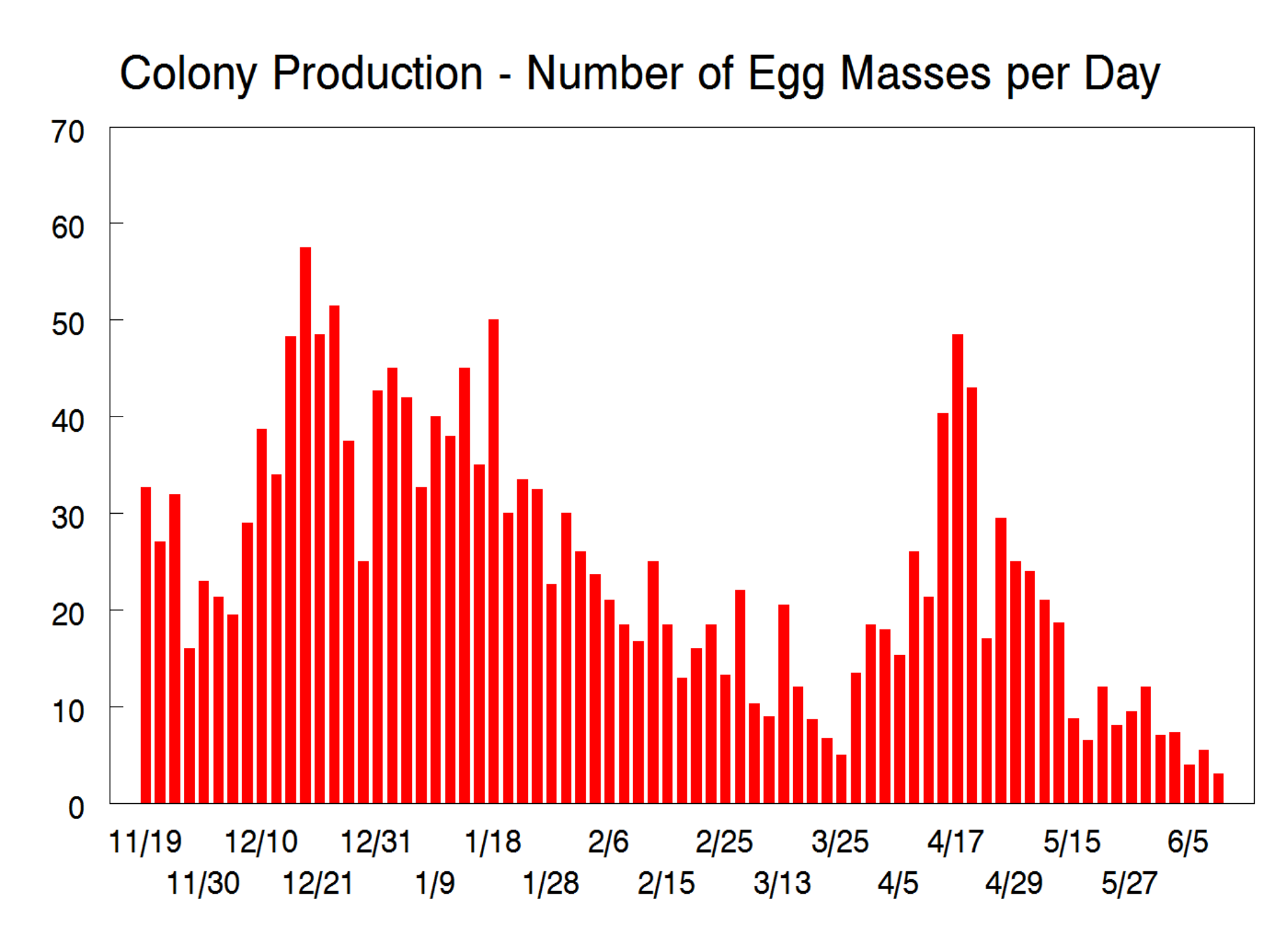
Colony Production - Number of Egg Masses per Day
70
60
50
40
30
20
10
0
11/19
11/30
12/10
12/21
12/31
1/9
1/18
1/28
2/6
2/15
2/25
3/13
3/25
4/5
4/17
4/29
5/15
5/27
6/5

COLONY LOG FOR CAGE NO. 30

Date	Stages	Colony size	Dead adults	Egg masses	Comments
3/1	A	250	—	—	
3/7	A	250	—	—	W/B
3/11	A	250	—	—	W/B + 2pkts
3/15	A	250	—	—	W/B
3/19	A	250	—	—	W/B
3/22	A	230	1	3	W + 4pkts
3/25	A	200	4	2	W/B
3/27	A	200	0	0	W/B
3/29	A	180	5	1	W/B + 1pkt
4/1	A	180	2	4	W/B + 1pkt
4/3	A	200	—	3	W/B + 1pkt
4/5	A	200	7	2	W/B
4/8	A	200	9	5	W/B + 3pkts
4/10	A	180	5	10	W
4-12	A	200	—	—	W/B
4/15	A	200	20	12	W/B
4/17	A	180	30	13	W/B
4/19	A	120	3	6	W/B
4-22	A	100	—	10	W/B
4/24	A	120	6	9+1H	W/B
4/26	A	100	—	7	W/B + seed paper
4/29	A	90	10	15	W/B
5/1	A	80	3	7	W/B
5/3	A	80	—	6	W/B
5/6	A	60	10	6	W/B + 2pkts
5/8	A	60	—	5	W/B
5/10	A	60	0	2	W/B
5/13	A	60	30	3	W/B
5/15	A	50	—	1	W/B
5/17	A	50	5	2	W/B
5/20	A	40	3	1	W/B + 2pkts
5-22	A	40	20	0	W/B
5/24	A	40	2	—	W/B
5/24	A	40	2	3	W/B + 1pkt
5/27	A	40	4	1	W/B
5/29	A	40	5	—	W/B
5/31	A	30	4	—	W/B

Closed added drawers to cage 19

Date	Stages	Colony size	Dead adults	Egg masses	Comments
2/8	A	200	—	—	
2/11	A	150	16	—	W/B
2/13	A	150	12	—	W/B + 2pkts
2/15	A	"			W/B + 2pkts
2/18	A	150	—	—	W/B + 2pkts
2/20	A	150	2	—	W/B + 2pkts
2/22	A	120	8	—	W/B
2/25	A	120	0	1	
3/1	A	120	0	—	W/B
3/4	A	120	4	5	W/B + 1pkt
3/7	A	100	2	5	W/B + 1pkt
3/11	A	100	6	3	W/B + 2pkt
3/13	A	100	5	5	W/B + 3pkts
3/15	A	100	3	1	W/B
3/19	A	100	12	4	W/B + 4pkts
3/25	A	75	38	0	W/B + 6 pkts
3/27	A	75	5	3+1B	W/B
3/29	A	75	3	3	W/B
4-1	A	75	0	1	W/B
4/3	A	70	2	5	W/B + 2pkts
4/5	A	70	5	3	W/B
4/8	A	70	—	6	W/B
4/10	A	70	1	4	W/B
4/12	A	70	0	6	W/B
4/15	A	60	0	5	W/B + 1pkt
4/17	A	40	4	3	W/B + 2pkts
4-19	A	40	1	4	W/B
4-22	A	40	1	2	
4-24	A	40	0	0	W/B
4/26	A	30	5	1	
	Closed				→ 12

Date	Stages	Colony size	Dead adults	Egg masses	Comments
12/10	1st-2nd N	>200	40 EM		NEW NURSERY - SEEDS/BEANS/
12/12	N(2)	200	—	Ø	Water, some beans
12/14	N(2)	200	—	Ø	Water
12/17	N(2,3)	200	—	Ø	Water, Pollen/mites), beans
12/19	N(2,3)	200	—	Ø	Water, beans
12/21	N(2,3)	200	—	Ø	Water, beans, walnuts
12/24	N(3,4)	200	—	0	W/B
12/26	N3-4	150	—	0	W/B POTATO
12/28	N3-4	150	—	—	W/B F2P
1/2	N(4)	150	—	—	W/B + 2 pkts
1/4	N(4)	150	—	—	W/B + 2 pkts
1/7	N(4/5)	150	—	—	Water
1/11	N(4/5)	150	—	—	W/B
1/14	N(4/5)A	150	—	—	W/B
1/16	N(5)A	150	—	1	W/B + 2 pkts
1/18	A	150	—	8	W/B
1/21	A	150	4	15	W
1/23	A	100	6	9	W + B + 2 pkts
1/25	A	100	4	21	W/B + 1 pkt
1/28	A	100	15	17	W/B + 2 pkts
1/30	A	80	19	11	W/B
2/1	A	70	11	4	W/B
2/4	A	40	20	3	W/B
2/6	A	23	—	2	23 → 32
	Empty				

COLONY LOG FOR CAGE NO. 31

Date	Stages	Colony size	Dead adults	Egg masses	Comments
1/8	Nursery	≈20 EM	—	—	
1/9	N(2)	200	—	—	Water
		+100 N(3)			
1/11	N(2/3)	300	—	—	W/F
1/14	N(2/3)	300	—	—	W/F
1/16	N(2/3)	300	—	—	W/F + 2 pkts
1/18	N(2/3)	300	—	—	W/F
1/21	N(2/3)	300	—	—	W/F
1/25	N(2/3)	300	—	—	W/F
1/30	N(2/3)	300	—	—	W/F
2/1	N(3/4)	300	—	—	W/B + 1 pkt
2/4	N(4)	300			
2/6	N(4)	250	—	—	W/B
2/8	N(4/5)	250	—	—	W/B + 1 pkt
2/11	N(5)A	250	—	—	W/B
2/13	N(A)	250	—	—	W/B + 1 pkt
2/15	N(A)	"	—	—	W/B
2/18	N(5)A	250	—	—	W/B
2/20	N(5)A	250	6	—	W + 2 pkts
2/22	N(5)A	250	17	1	W/B + 2 pkts
2/25	A	200	12	5	W/B
2/27	A	150	8	2	
3/1	A	100	6	1	
3/4	A	20	7	1	
3/7	A	10	Ø	Ø	W/B + 1 pkt
		10			31 → 15

Research Questions Relative to Colony Rearing:

What are the optimum environmental conditions for rearing?

Is there an optimum population size per cage?

What food sources provide the nutritional requirements for maximum egg production?

Do colony populations need a periodic diapause break?

Do adults and nymphs require re-provisioning of gut symbionts?

What are the best methods to process and store adults collected in the fall?