



Ministry of Agriculture, Livestock and Irrigation
Department of Agriculture

**New silkworm strain, K08 X M12(Sanite) is
suitable or not to rear in summer season at
Myitkyina, Kachin State**

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1. Introduction

- The summer season of Kachin State is dry and slightly hot.
- The weather condition is not bad for silkworm rearing but the temperature is high above 30 degree Celsius.
- The young age worms require tender, soft and succulent leaves which are rare in the summer.
- We observed this experiment during the summer season



2. Objectives



- To study the adaptation and fitness of the new silkworm strain during the summer season of Kachin State.
- To compare the cocoon yield and quality of silkworm strains.
- To select the best rearing season for commercial production.
- To substitute the control silkworm strain when it will be depressed.

3.Rationale of the Study

- This is the third experiment in summer after studying the two experiments in winter and rainy season . However , we got high yield and quality of cocoon in winter season .The cocoon yield and quality of both strains are not different in the same season. Therefore , we continue to study this experiment to select the best season for commercial production.



4. Materials and Methods



4.1 Materials

1. New Strain - KO8 X M₁₂ (Sanite)
2. Control - Ino₆ X N₂₄ (Kachin)
3. other Material - Rearing House and instruments,
digital balance

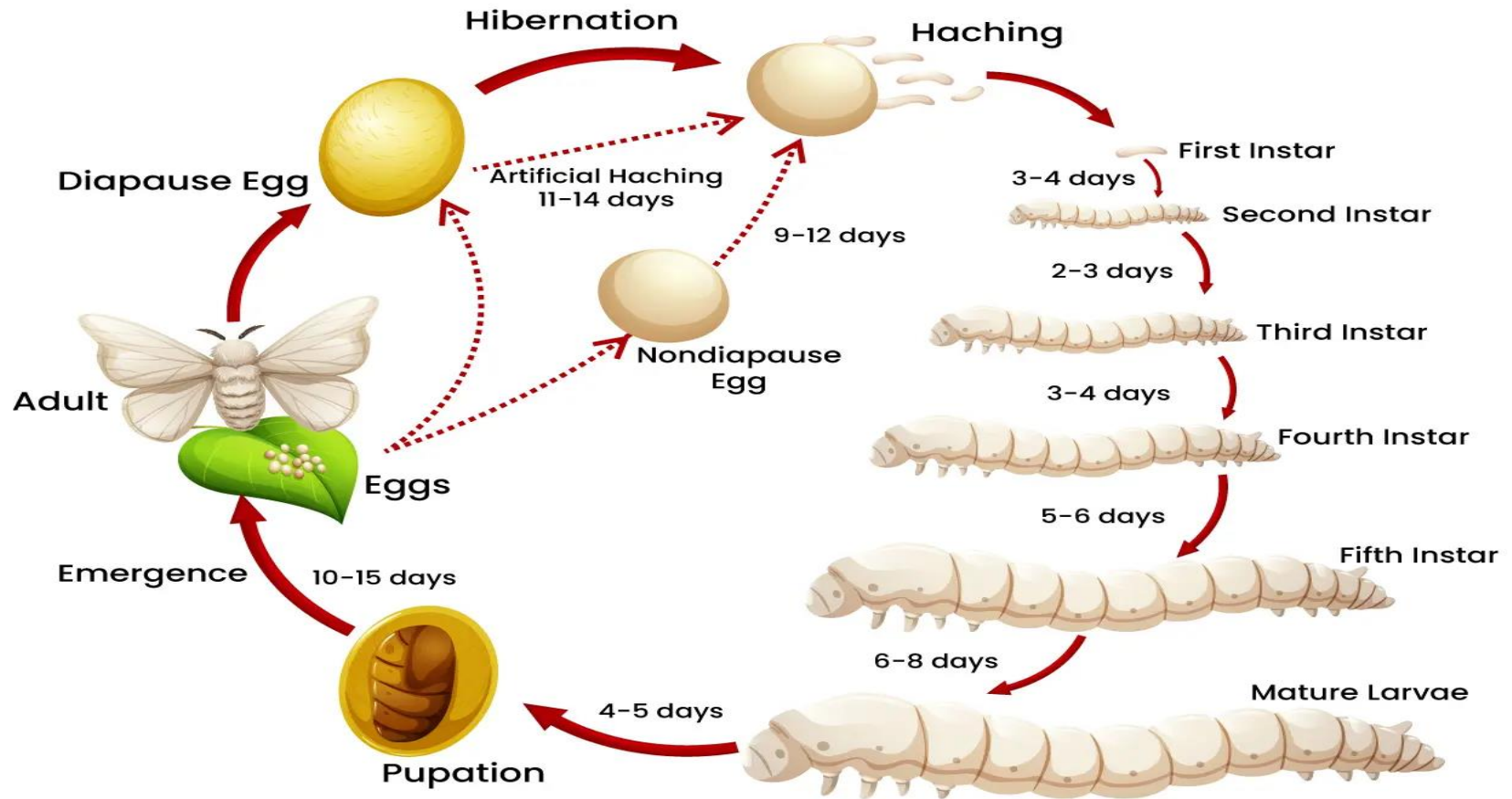
4. Materials and Methods

4.2 Description of the experiment

- | | |
|------------------------------|--|
| 1. Experimental design | -simple trial |
| 2. Experimental place | -Myitkyina Sericulture Farm |
| 3. Experimental unit | - Each 10 g Egg |
| 4. Source of silkworm strain | - Sericulture Research and
Development Center, Pyin Oo Lwin |
| 5. Forecasted hatching date | - 28.3.2021 |
| 6. Actual hatching date | - 30.3.2021 (new strain) |
| ` | - 31-3-2021(control) |
| 7. Actual percentage | - Each 90% |

5. Results and Discussions

5.1. Description of the silkworm life cycle



5. Results and Discussions

5.2 Comparison of eating, moulting duration

No.	Larval Stages	eating period		molting period	
		New strain	control	New strain	control
1.	First instar	4.75	4.50	0.75	1.00
2.	Second instar	4.00	3.50	1.00	1.25
3.	Third instar	3.25	3.50	1.0	1.00
4.	Fourth instar	4.25	4.25	2.00	2.00
5.	Fifth instar	7.0	7.0	mature	mature
	Total days	23.25	22.75	4.75	5.25

5. Results and Discussions

5.3. Comparison of fourth instar moulting



New Strain



Control

5. Results and Discussions

5.4. Comparison of larval feeding rate throughout the life cycle

N0	Larval Stages	Leaves weight(Lb)	
		New strain	Control
1.	First instar	2	2
2.	Second instar	7	5
3.	Third instar	26	22
4	Fourth instar	120	123
5	fifth instar	441	440
6	Total	596	592

5.Result and Discussion

5.5. comparison of dead larvae (fourth instar to cocoon)

No	larvae stage	Number of death	
		New strain	Control
1	Fourth instar	-	-
2	Fourth instar molting	88	32
3	Fifth instar	877	386
4	Inside stained cocoons(dead cocoon)	986	437
	Total	1951	855

5. Results and Discussions

5.6. Comparison of cocoon yield and quality of strains

No.	Particular	New Strain	Control
1	The average weight of larva(4 th day of 5 th instar)	1.6	1.7
2	Cocoon yield(lb /10 g. egg)	20	29
3.	No of double cocoon	96	138
4	No. of stained cocoon	1487	858
5	No. of flimsy cocoon	163	133
6.	No of cocoon per pound	321	308
7	Average silk percentage	17.54	18.06



3/14/2022



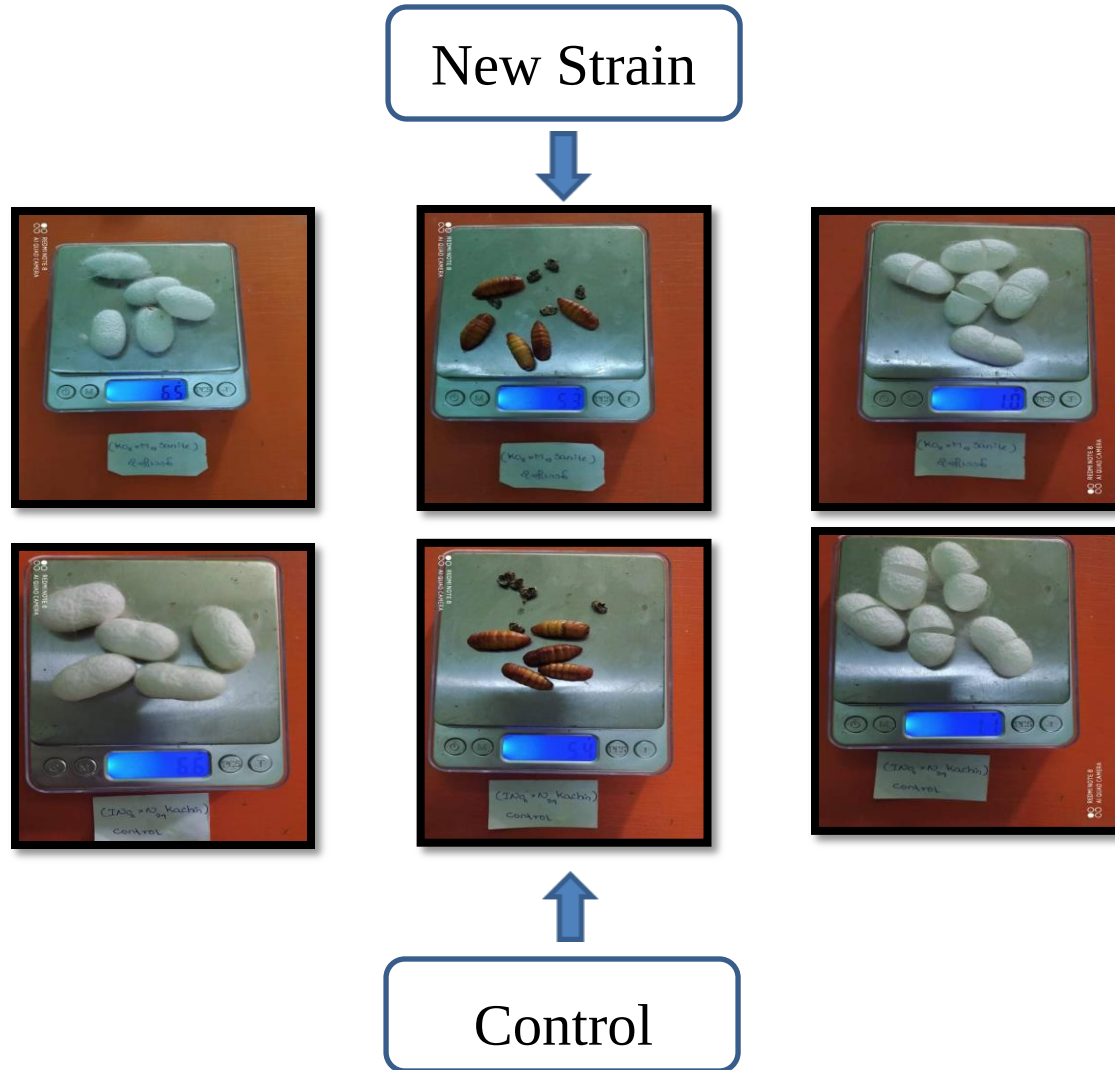
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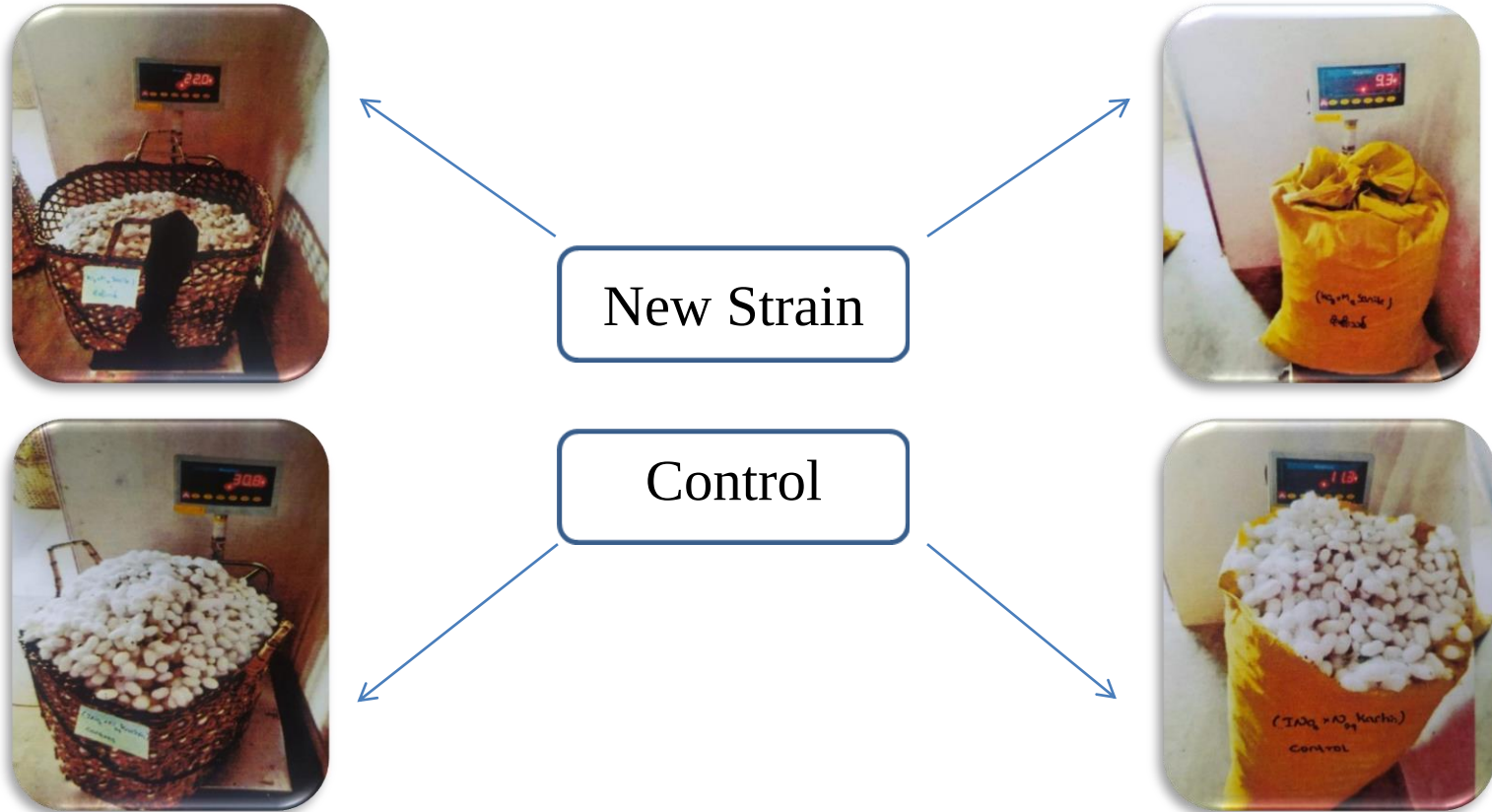
5. Results and Discussions

5.7.Measurement of cocoon weight , pupa weight, shell weight



5. Results and Discussions

5.8.Measurement of fresh cocoon weight and dry cocoon weight



5. Results and Discussions

5.9.Comparison of yield, quality and profit in three seasons

No	Particular	Summer		Rainy		Winter	
		New	Control	New	Control	New	Control
1	Cocoon yield(lb)20	20	29	9	7.9	67	63
2	Cocoon quality	fair	fair	bad	bad	the best	the best
3	rearing period	30	30	24	24	27	27
4	cocoon price	2800	2800	2000	2000	3000	3000
5	labour and material cost	70000	70000	70000	70000	70000	70000
6	profit/lose	-14000	11200	-42000	-54200	132000	119000

6. Conclusion and Suggestion

- 1. Both silkworm strains had been moderately infested by diseases in summer . However, they were seriously infested in rainy season.
- 2. In winter season, both strains are free from disease. We got the highest yield and the best quality cocoon.
- 3. The result of new strain is not different with control strain every season.
- 4. Therefore, we have to select the winter as the best rearing season to get more profit.
- 5. In summer season, we can rear silkworms to get optimum yield. We should create to get young age worms leaves by adjusting cutting time and silkworm periods.
 - In order to be successful silkworm rearing , the weather condition is as important as leaf quality.

Thank You For Your Attention

