



**KERONE**



A CRISIL-NSIC RATED COMPANY  
ISO 9001: 2008 COMPANY  
AFFILIATED TO THE UNIVERSITY OF NOTTINGHAM  
MEMBER OF AMICAL

**DATE:03/05/2017**

**CLIENT:** ADEPT IMPEX PVT. LTD.

**APPLICATION:** Drying of jasmine flowers and sterilizing for disinfection.

**PROCESS FOLLOWED:**

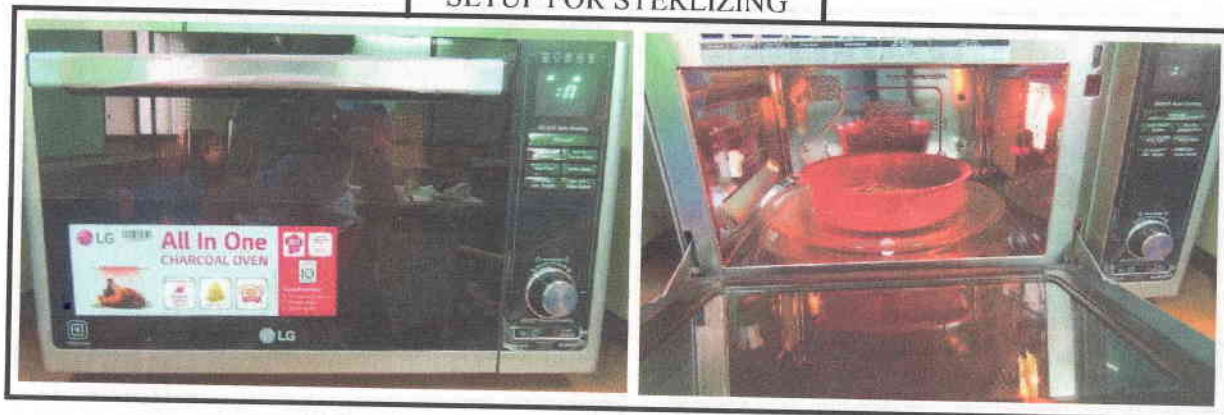
1. Use fresh flowers of jasmine as it is for trials and keep on perforated tray for dehydration.
2. Set temperature of dehydrator at 50°C.
3. Observe the flower after every one hour by taking weight and capturing pictures.
4. Continue the process of dehydration until the colour of flower becomes brown.
5. After dehydration, give microwave exposure to dried flowers for sterilizing and disinfection on high intensity and for a very short time period.

**TRIAL SETUP:**

SETUP FOR DRYING



SETUP FOR STERILIZING



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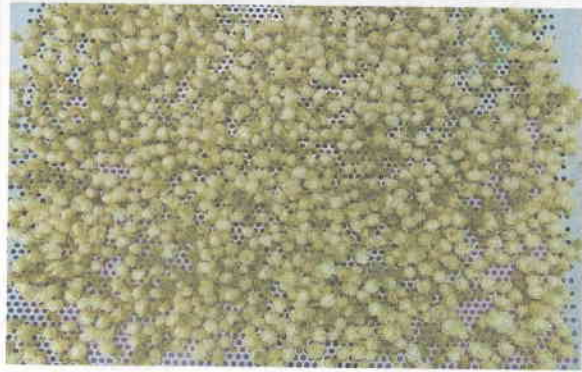

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**TRIAL READINGS AND PICTURES:**

**1. DRYING:**

	
Before Dehydration Initial Weight: 200 grams	After 60 minutes Weight taken: 116 grams

	
After 120 minutes Weight taken: 67 grams	After 180 minutes Weight taken: 44 grams

	
After 240 minutes Weight taken: 38 grams	After 300 minutes Weight taken: 37 grams

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After 360 minutes

Weight taken: 36 grams



After 420 minutes

Weight taken: 36 grams

**2. STERLIZING:**

Sr. No.	Microwave Power	Time (seconds)	Observations
1	900 W	30	No change in colour and texture
2		40	No change in colour and texture
3		50	No change in colour and little brittle in texture
4		60	No change in colour and little brittle in texture
5		70	No change in colour and little brittle in texture
6		80	No change in colour and more brittle in texture
7		90	No change in colour and more brittle in texture that easily get crushed in powder by hand

**OBSERVATIONS:**

1. The process of drying of flowers is completed after 360 minutes as there is no weight loss on drying after 360 minutes
2. After drying, the colour of flowers becomes dark brownish also the texture becomes brittle.
3. The total weight loss in flowers is 164 grams, i.e., out off 200 grams only 36 grams remain.
4. It shows exactly 82% weight loss of flowers in 360 minutes, i.e., in 6 hours at 50°C.
5. The dark brownish colour of flowers that get after drying remain unchanged after microwave exposure also. Only the level of brittleness is increasing after microwave exposure
6. Following are the before and after pictures of drying process of flowers.



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BEFORE DRYING



AFTER DRYING



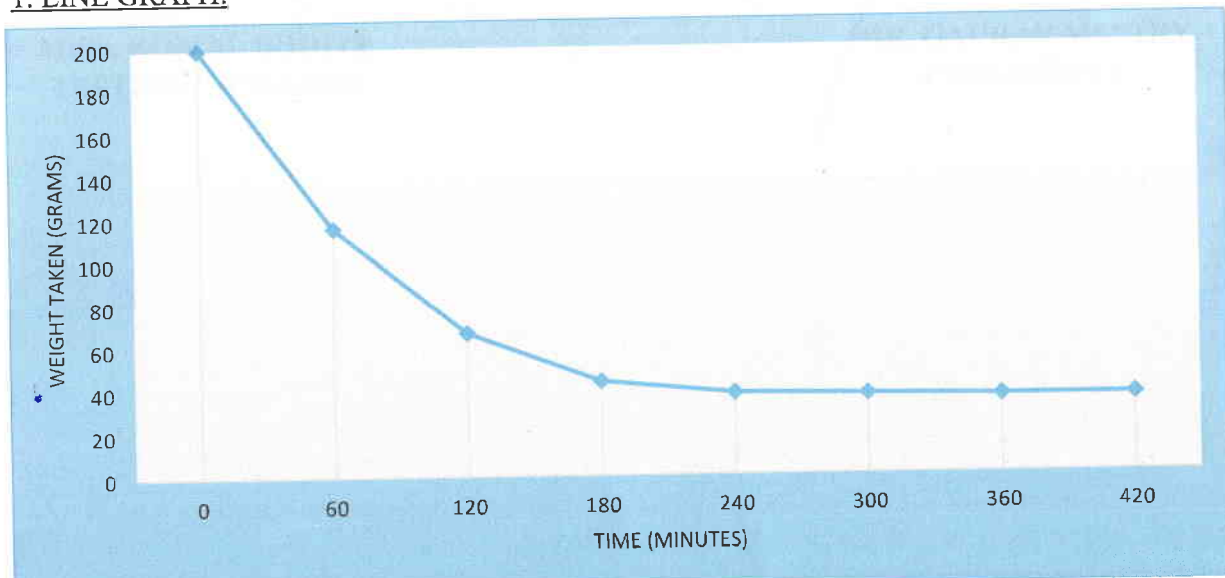
PICTURES SHOWING THE BRITTLNESS OF FLOWERS AFTER MICROWAVE EXPOSURE FOR STERILIZING

**LINE GRAPH AND BAR DIAGRAM SHOWING WEIGHT LOSS ON DRYING:**

Following presentation of line graph and bar diagram illustrates the moisture loss on drying in flower by showing weight taken against different intervals of time.

The line graph shows the weight of flowers decreases over the period of time interval and in bar diagram, the numbers on bars indicates the weight of flowers taken at that time interval.

**1. LINE GRAPH:**



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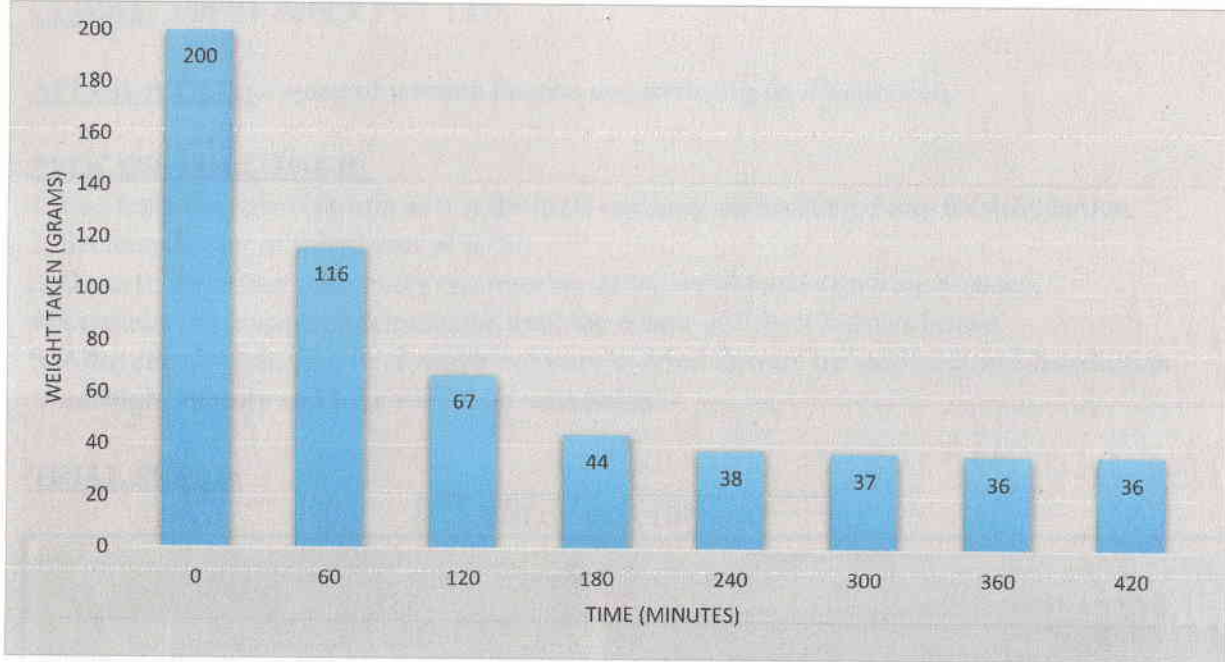


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**2. BAR DIAGRAM:**



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**MISS. KOMAL BHOITE**  
**TESTING INCHARGE**

**MR. GAURAV MESTRY**  
**CHECKED BY**