

## The Modern Method of Tissue Culture Using Grafting and Traditional Method with Some More Innovative Improvement

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**Abstract:** The method of grafting method is old but it is and In-vitro process but without lot of chemicals, but tissue culture is advanced but an In-vitro process in which different types of chemicals are used to pure formation of new food supplement but It is not a fast, unreliable, not suitable for all plant as well as it is very costly, but I have a solution for it by using some common organic materials like tomato abstract and banana or guava abstract with some basic chemicals of tissue culture and 7 main titration solvents with the help of light and darkness patterns and UV radiation to get final result with more enhanced plants in short time period with any plants of same species.

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### I. Introduction

Introduction to the tissue culture or grafting is not new but experience was not that good, but now we have3 solution which I can describe in my entire paper, as we know 7 main solvents are as follows – Ether, Ether Solvent or Petroleum ether , Absolute Alcohol, Rectified Spirit, Benzene, Acetone, Water.

But in the case of tissue culture we generally, need alcohol and there are many organic chemicals for improvement of quality with pure air, white light spectrum, UV radiation, white and dark pattern etc.

### II. Material and Methods

Traditionally, grafting cutting and layering are method of developing new variety of plants. But after growth of genetic plant breeding and biotechnology tissue culture is started by **Montrose Thomas Burrows**, after that there are so much experiments had done and some development of pure plants

**Study duration-** 1.5-2 months

The use of grafting with tissue culture is something new and unique technique but it is a method which is little bit different, because, we use 7 main solvents for titration and then we use different nutrients antibiotics for make it more pure and free of disease. With the help of 16h light/ 8h dark pattern of white light and UV radiation for ½ hrs regular for 21 days continuously, for obtain maximized result within short period of time.

Absolute Alcohol, Rectified spirit, Benzene, Ether, Ether Solvent or (petroleum ether), Acetone, Water for 1 day for ½ hrs, and I got explants ready for the experiment.

The organic chemicals are used in tissue culture from a long time period, so I also used that in my experiment the chemicals names are given below

ANTIBIOTICS and Antifungal	AMINO ACIDS	General Chemicals	Organic acids	Organic Supplement	Vitamins	Carbohydrate	Chromogenic Sub.
Amoxycillin	D-Glutamine	Ammonium Sulphate	Alpha-Keto Glutaric acid	Pectin	Vitamin-B12	D-(+)-Galactose	Blue-Gal
Ampicillin	L-Alanine	Boric acid	Citric acid	Apple Powder	Biotin	D-(+)-Glucose	(BCIP)
	L-Arginine	Ferric Sulphate	L-Malic acid	Banana Powder	Vitamin- B9	D- Fructose	
	L-Aspartic acid	Magnesium oxide	Sodium Pyruvate	Casein	Vitamin -C	Sucrose	
	L-Cystine	Molybdenum	Succinic acid	Peptone	Niacin	Dextrose	
	L-Histidine	Potassium Chloride		Potato Powder	Riboflavin		
	L-Leucine	Potassium nitrate		Tomato Powder	Thiamine		
	L-Lysine	Sodium nitrate			PABA		
	L- Methionine	Zinc Sulphate			Vitamin-B6		
	L- Phenylalanine						
	L-Proline						
	L-Tryptophan						
	L-Tyrosine						
	L-Valine						

Disinfectants	Dyes, Indicators and Stains	Enzymes	Gelling Agent	Miscellaneous Chemicals	PGRs	Steroids
Calcium hypochloride	Acetocarmine	Cellulase	Agar	Activated Charcoal	Abscisic acid	Beta- Sitosterol
Hydrogen Peroxide	Apple green colour	Pectinase		Colchine	a-BAP	
Sodium hypochloride	Methylene Blue trihydrate				GA3	
					IAA	
					IBA	
					Kinetin	
					Salicylic acid	
					Zeatin	
					NAA	

By using such chemicals for producing an superior quality of plants without spending a lot of time we also used 16h light/8h dark patterns for them for 21 days till they are dibbed in soil, and using of UV rays for 21 days for half an hour daily helps in making a microbe free product. Using light and dark pattern is helpful in photosynthesis then I dibbed it in soil for 15 days,

And another experiment I tried with this one in which I mixed all the culture explants abstracts together in a different container with same conditions applied on it within same time I found the mixed one is developed 25%-30% more faster than my own experiments with tissue culture and grafting method because, at genetic

level all species of plants and different characteristics of their families are cross with each other and form a new and amazing type of product.

### III. Discussion

My expected outcomes were exactly, what I found and my expected outcomes are simply based on principle of genetics plant breeding and biotechnology but not only that I was trying something new,

So, I found many different things,

- 1.) Color is changing rapidly, because of pure charcoal, and fruit abstract and tomato abstract,
  - 2.) I also used 85% of alcohol and 15% of water for cleaning extra amount of each and every chemical
  - 3.) I also found exothermic reaction and find foam like substance because of heat releasing chemicals,
- Because, of these reaction I thought that the experiment may not be correct, but I found exactly, what I want, I also give them UV effect to it for approx 30-45 minutes, and then for 21 days continuously 16h light and 8h darkness.

I changing the total chemical amount and temperature and humidity many time and also changes the flasks as well for more pure reactions, and I trying them for get more accurate result.

It changes the total problem of food and we get pure products as well, it needs more innovation and more accurate natural conditions for that and then we also used that plants which are more suitable plants for more suitable result.

Then again after changing the tubes and flaks the reaction is again in optimal condition. The foam appearance is because of the inorganic elements heat releasing nature. And then finally, we got perfect small plantlet in each tube and flask.

### IV. Result

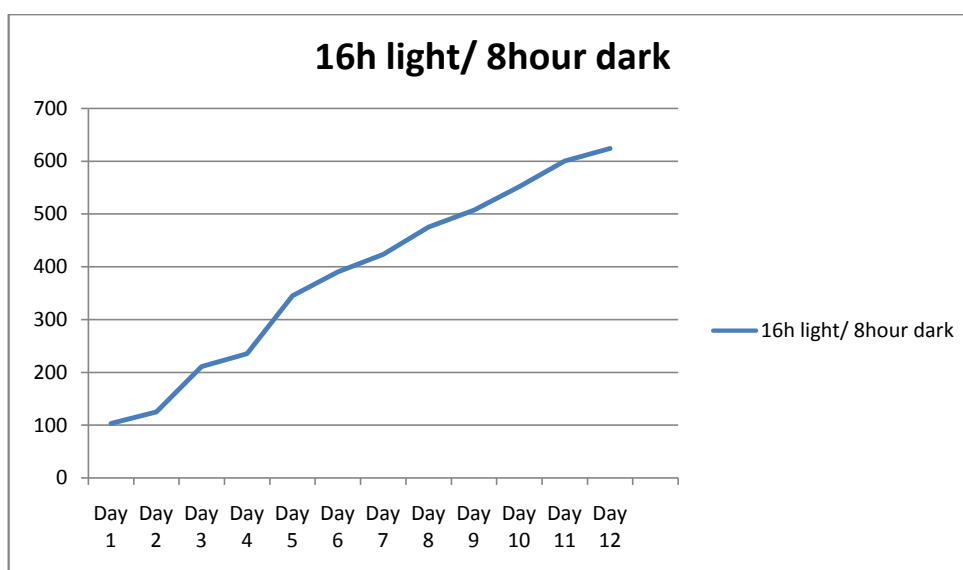
Firstly, in my result I found some highlighted result and conclusions-

- 1.) The main and final result is that we got a small plantlet from this new experiment
- 2.) I find black foam like appearance and heat releasing. But this is because, of alcohol and charcoal powder.
- 3.) I also found the precipitate in liquid form, which later used as developed liquid

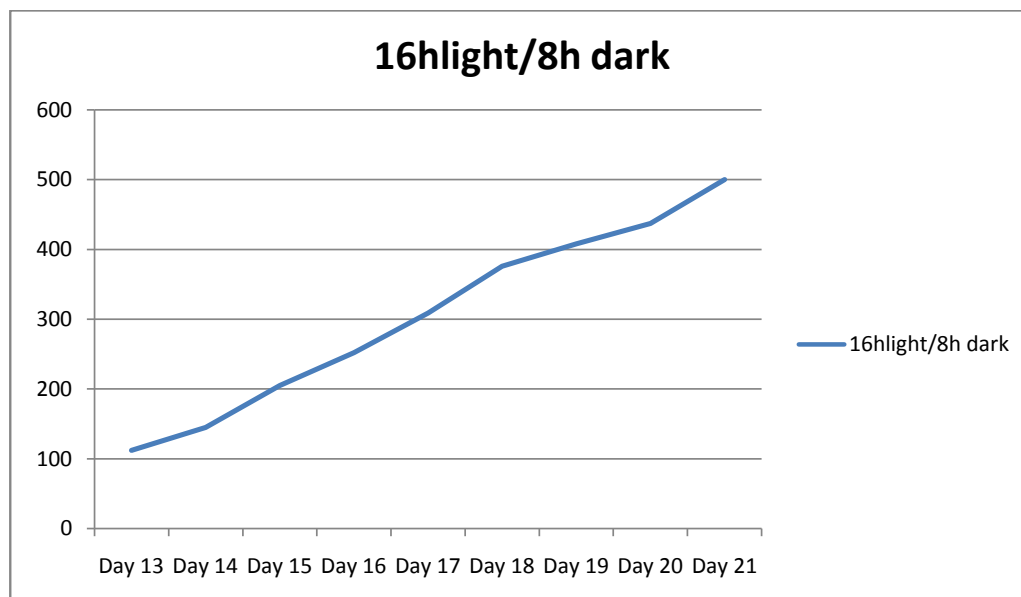
I noticed that the pattern of color changing per tube in every two days because, the food stuffs. Then I got finally, the clear liquid, and because of precipitation. But again black color and foam with heat because of the inorganic chemicals and charcoal.

Because, of these foam formation I thought that the experiment may not be right, but procedure is correct I found exactly, what I want I also give them UV effect to it for approx 30-45 minutes, and then 16h light and 8h darkness for 21 days continuously.

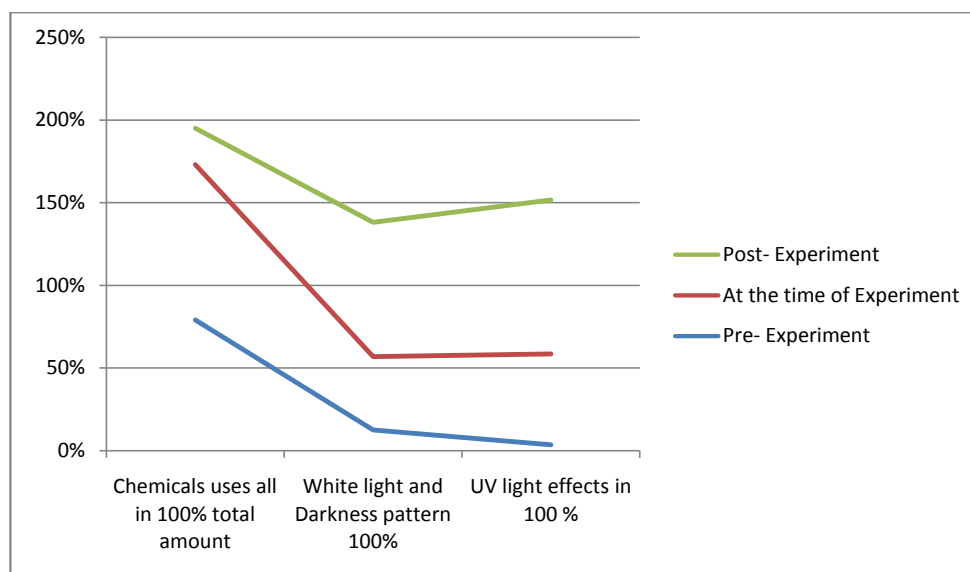
I changed the total chemical amount and temperature and humidity many time and also changes the containers as well for more pure reactions, and I tried to get more accurate result.



	Pre- Experiment	At the time of Experiment	Post- Experiment
<b>Chemicals uses all in 100% total amount</b>	79%	94%	22%
<b>White light and Darkness pattern 100%</b>	12.50%	44.40%	81.20%
<b>UV light effects in 100 %</b>	3.50%	55.08%	93.00%



16hlight/8h dark	
Day 13	112
Day 14	145
Day 15	205
Day 16	252
Day 17	309
Day 18	376
Day 19	408
Day 20	437
Day 21	500



(All the calculation is done by time to wavelength and frequency ratio)	16h light/ 8hour dark
Day 1	103
Day 2	125
Day 3	211
Day 4	235
Day 5	345
Day 6	390
Day 7	423
Day 8	475
Day 9	507
Day 10	552
Day 11	600
Day 12	624

**Pre- Experiment-**







**At time of experiment-**



















**Post-Experiment-**











## V. Conclusion

I started this experiment 5 months of observation and study on tissue culture and how to change demerits of tissue culture into merits of plant production. And after that study I got idea about how to grow tissue cultured plants in a short time period and with different varieties of qualities integrate in it.

It is based on Principle of Genetics Plant Breeding and Biotechnology but not only that I was trying something new,

So, I found many different things,

- 1.) Color is changing rapidly, because of pure charcoal, and fruit and tomato abstract,
- 2.) I also have to use 85% of alcohol and 15% of water for cleaning extra amount of each an every chemical
- 3.) I also found exothermic reaction and find foam like substance because of heat releasing chemicals,
- 4.) By mixing this all the 4<sup>th</sup> explants together and made a 5<sup>th</sup> and new mixed one is more appropriate.

It help in solving the total problem of food and we get pure products as well, it needs more innovation and more accurate natural conditions for that and then we also have to use that plants which are more suitable plants for more suitable result.

## References

**Montrose Thomas Burrows** Along with Dr. Alexis Carrel, a surgeon at Rockefeller Institute (1906 – 1927), Dr. Burrows is credited with coining the phrase "tissue culture", and is among the first to adapt such methods to the study of tissues from warm-blooded animals.

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