

# Brain Storming on MANAGEMENT OPTIONS FOR ACHIEVING HIGHER WATER PRODUCTIVITY IN OIL PALM

29-10-2020 (11.00 to 13.00 hrs)

## ABOUT THE PROGRAMME

Water management is one of the most critical aspects in oil palm cultivation as deficit or excess of water would create stress and adversely affect its yield. In addition, single growing point, continuous fruiting habit, long economic life span and narrow genetic base in this crop imparts greater significance to management solutions for achieving higher water productivity in this crop. Regular production of inflorescences, existence of fruit bunches in various stages of development at any given point of time makes it difficult to differentiate sensitive and non sensitive stages for water stress and thereby to adopt certain options like regulated deficit irrigation (RDI) which are successful in other horticultural crops. Further, the estimates of water productivity available from international scenario are all worked out under rainfed conditions. Now, oil palm cultivation is being promoted in 22 states in our country and hence it is exceptionally important to develop strategies for higher productivity of water in this crop. The deliberations of this brain storming are expected to help in construction of a roadmap to steer the research programme on oil palm water management in right direction to achieve higher water productivity.

## PANEL EXPERTS



**Dr. V. Praveen Rao**  
Vice Chancellor,  
PJTSAU, Hyderabad



**Dr P.K.Ghosh**  
Director, ICAR-NIBSM,  
Raipur, Chattisgarh



**Dr S.Bhaskar**  
ADG (Agronomy), ICAR,  
New Delhi



**Dr P.Rethinam**  
Former Director,  
ICAR-IIOPR



**Prof. Dr Man Singh**  
Project Director WTC,  
IARI, New Delhi



**Dr.H.P.Maheswarappa**  
Project Co-Ordinator (Palms),  
ICAR-CPCRI, Kasargod



**Prof. Dr. S.Rami Reddy**  
Professor of Agronomy & Former  
Assoc Dean, ANGRAU



**Dr P.M.Govinda Krishnan**  
Fr Project Co-Ordinator  
(Potato), ICAR-CPRI, Shimla



**Dr Ravi Bhat,**  
Head Crop Production,  
ICAR-CPCRI, Kasargod



**Dr Vidhan Singh,**  
PS, AgriEngg, ICAR-IIRR,  
Hyderabad



**Dr P.Subramanian,**  
PS, Agronomy, ICAR-  
CPCRI, Kasargod



**Dr B.L.Manjunath**  
PS, Agronomy, ICAR-IIHR,  
Bengaluru



**Dr Ravindra Singh**  
PS, NRC for Seed Spices,  
Ajmer, Rajasthan



**Dr M Patidar**  
PS & Actg Head,  
CAZRI RS, Jaisalmer



**Dr S S Rao**  
PS, Actg Head, NBSS  
& LUP ReglStn, Udaipur

## PROGRAMME

11.00	Introduction	Dr K Manorama
11.05	Inauguration	Dr R K Mathur
11.15	Introducing experts	
11.25	Presentation of the topic	Dr K Manorama
11.45	Remarks by panelists	
12.15	Panel Discussion	
12.45	Conclusion	
12.55	Vote of thanks	

**Convener : Dr K.Manorama**

## ORGANIZING COMMITTEE



**Dr R K Mathur**  
Director, ICAR-IIOPR,  
Pedavegi, Andhra Pradesh



**Dr K Manorama**  
Principal Scientist (Agronomy)  
ICAR-IIOPR



**Dr K Suresh**  
Principal Scientist (Plant  
Physiology), ICAR-IIOPR



**Dr K Ramachandrudu**  
Principal Scientist  
(Horticulture) ICAR-IIOPR

Web Link: <https://www.gotomeet.me/icariioopr/management-options-for-better-water-productivity-i>

Meeting ID: 310-535-853



**ICAR - Indian Institute of Oil Palm Research**  
Pedavegi - 534 450, West Godavari Dt., Andhra Pradesh

Website: <https://iiopr.icar.gov.in>



## Proceedings of Brain storming on “Management options for achieving higher water productivity in oil palm”

A brain storming session was organized on virtual mode by ICAR-IIOPR on 29.10.2020 to prepare the roadmap for research on water management in oil palm. The title of the session was “Management options for achieving higher water productivity in oil palm”. The following experts from all over India participated in the programme.

1. Dr V. Praveen Rao, VC, PJTSAU, Hyderabad, Telangana
2. Dr P.K. Ghosh, Director, ICAR-NIBSM, Raipur, Chhattisgarh
3. Dr S. Bhaskar, ADG (Agronomy), ICAR
4. Dr P. Rethinam, Former ADG (Plantation Crops) & Founder Director, ICAR-IIOPR
5. Dr Man Singh, Project Director, WTC, IARI, New Delhi
6. Dr H.P Maheswarappa, PC, AICRP (Palms), ICAR-CPCRI, Kasargod, Kerala
7. Dr S. Rami Reddy, Retd Professor of Agronomy, ANGRAU, Tirupati, AP
8. Dr P. M. Govinda Krishnan, Former PC, AICROP on Potato, ICAR-CPRI, Shimla, HP
9. Dr Ravi Bhat, Head, Crop Production, ICAR-CPCRI, Kasargod, Kerala
10. Dr T. Vidhan Singh, Principal Scientist, ICAR-IIRR, Hyderabad, Telangana
11. Dr P. Subramanian, Principal Scientist, ICAR-CPCRI, Kasargod, Kerala
12. Dr B .L. Manjunath, Principal Scientist, ICAR-IIHR, Hessarghatta, Karnataka
13. Dr M. Patidar, Actg Head, CAZRI RC, Jaisalmer, Rajasthan
14. Dr S. S. Rao, Principal Scientist & I/c Head, NBSS & LUP RC, Udaipur, Rajasthan
15. Dr Ravindra Singh, Principal Scientist, Agronomy, NRCSS, Tabiji, Ajmer

Dr R K Mathur, Director of the institute welcomed the gathering and introduced the topic. Dr K Manorama, Principal Scientist (Agronomy) made a presentation on details of the crop and work done so far in India and abroad. A good discussion occurred on water requirement of the crop, pros and cons of different management techniques and finally the following points came out as major recommendations.

1. A comparative study having treatments with land based and crop based water requirement is to be taken up
2. WR may be estimated through lysimeter studies or by following differential ET under shaded and non shaded areas
3. As majority of oil palm in India is grown under irrigation, water foot print needs to be estimated in oil palm
4. LCIA studies are to be taken up to study the impact of oil palm on environment
5. To reduce the effect of VPD, antitranspirants can be tried and Potassium polyacrylate, a super absorbent is another option for water retention
6. Sensor based automation can also be tried for enhancing water productivity

  
(K. MANORAMA)  
Convener

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Speakers

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Talking: Manorama Kamireddy

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### Crop water use

1. Even if the soil is wet, **Stomatal conductance, photosynthesis and transpiration** are all reduced when the air is dry (saturation deficits range from <math><1.0</math> to 4.0 kPa).
2. A significant proportion of evapotranspiration (13%) can come from below the palm canopy (soil and ground flora).
3. Water can be extracted from depths >5 m in the dry season.
4. The limiting soil water deficits above which **transpiration is reduced**, on sandy clay loam/sandy soils, are in the range of 15-30 mm.

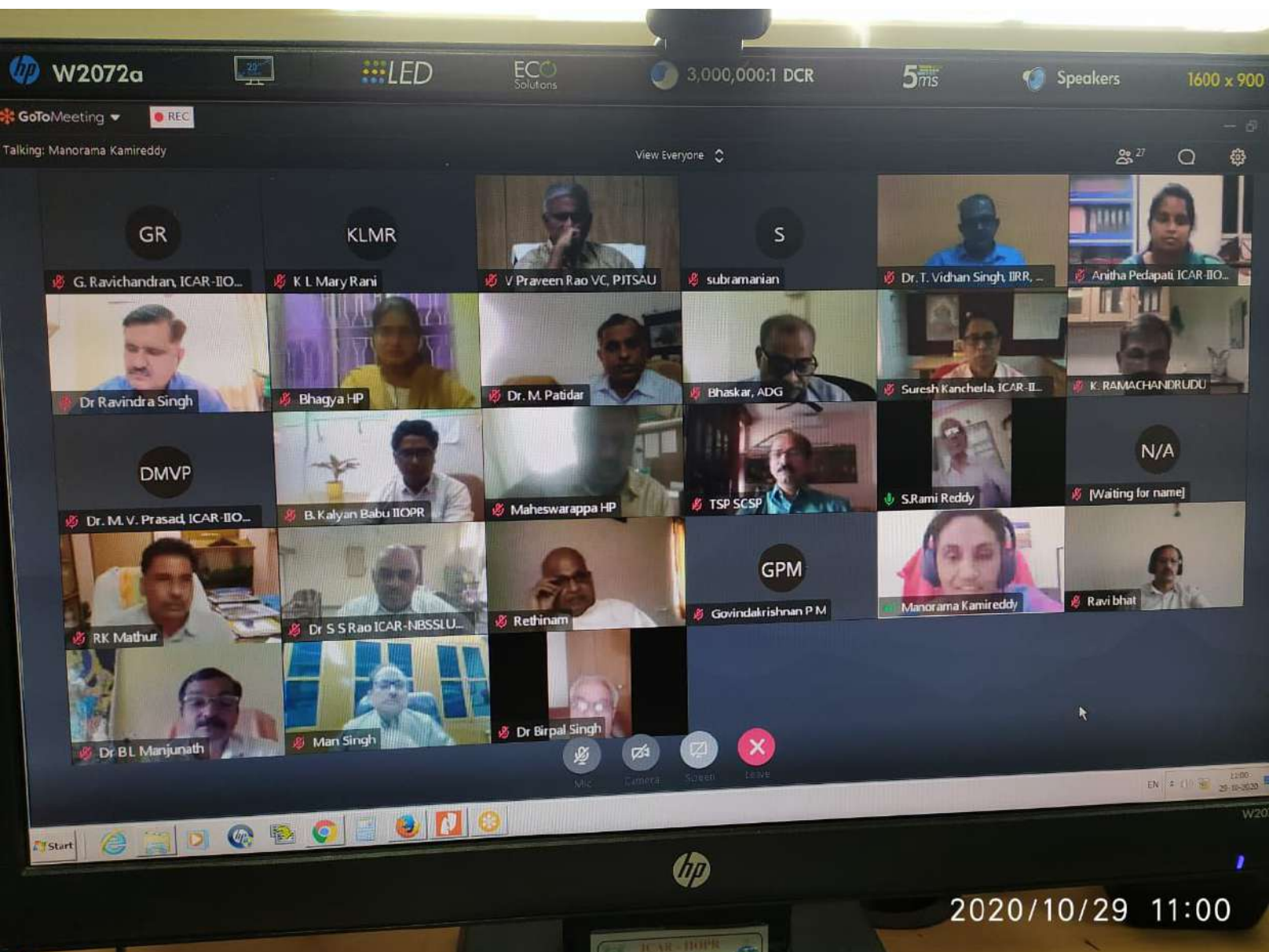


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GR

KLMR

S

G. Ravichandran, ICAR-IIO...

K L Mary Rani

V Praveen Rao VC, PITSAU

subramanian

Dr. T. Vidhan Singh, IRR, ...

Anitha Pedapati, ICAR-IIO...

Dr Ravindra Singh

Bhagya HP

Dr. M. Patidar

Bhaskar, ADG

Suresh Kancharla, ICAR-IL...

K. RAMACHANDRUDU

DMVP

Dr. M. V. Prasad, ICAR-IIO...

B. Kalyan Babu IIOPR

Maheswarappa HP

TSP SCSP

S.Rami Reddy

[Waiting for name]

GPM

RK Mathur

Dr S S Rao ICAR-NBSSLU...

Rethinam

Govindakrishnan P M

Manorama Kamireddy

Ravi bhat

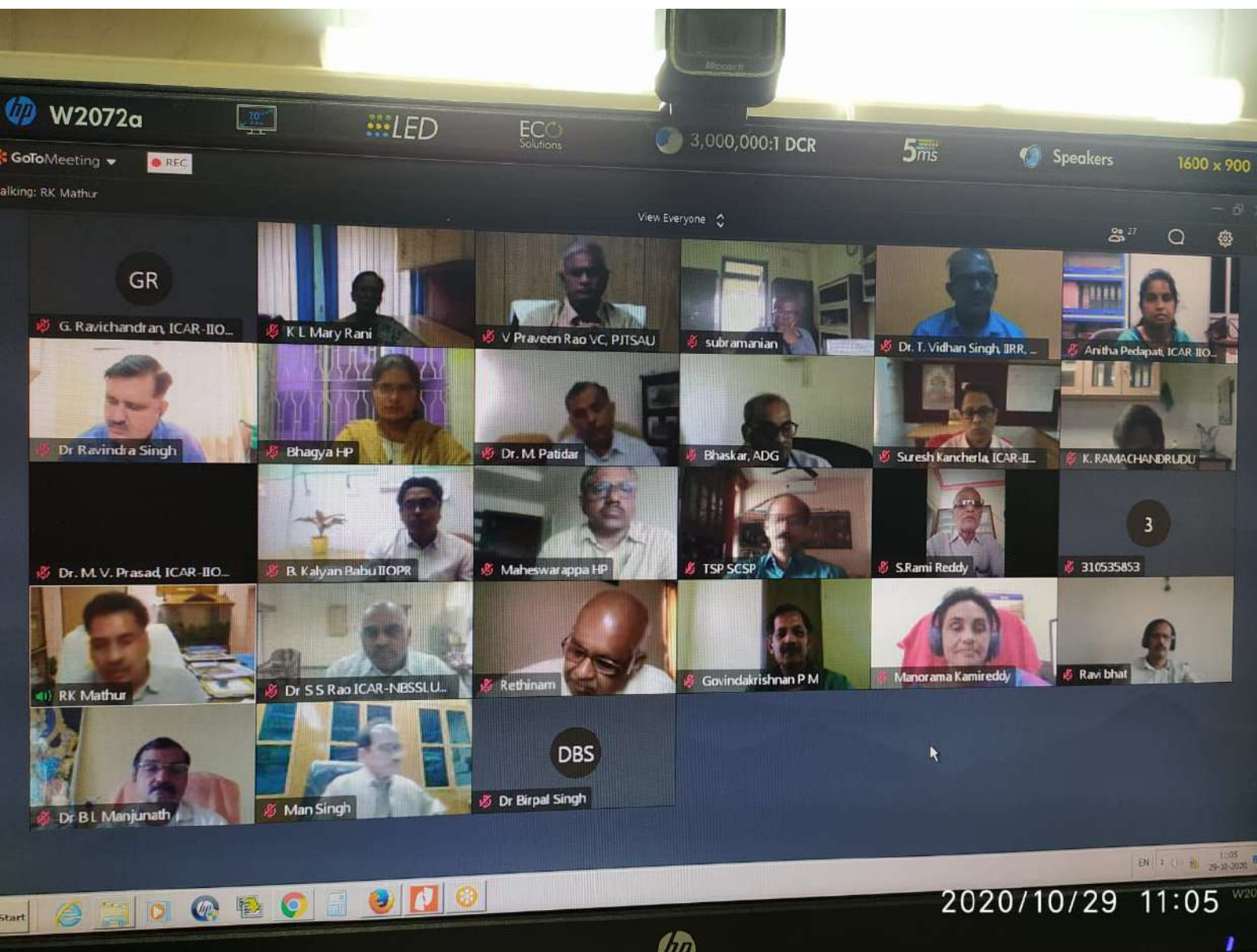
Dr BL Manjunath

Man Singh

Dr Birpal Singh

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Talking: RK Mathur View: Everyone

GR G. Ravichandran, ICAR-IIO...	K L Mary Rani	V Praveen Rao VC, PJTSAU	subramanian	Dr. T. Vidhan Singh, IRR, ...	Anitha Pedapati, ICAR-IIO...
Dr Ravindra Singh	Bhagya HP	Dr. M. Patidar	Bhaskar, ADG	Suresh Kancharla, ICAR-II...	K. RAMACHANDRUDU
Dr. M. V. Prasad, ICAR-IIO...	B. Kalyan Babu TIOPR	Maheswarappa HP	TSP SCSP	S.Rami Reddy	3 310535853
RK Mathur	Dr S S Rao ICAR-NBSSLU...	Rethinam	Govindkrishnan P M	Manorama Kamireddy	Ravi bhat
Dr B L Manjunath	Man Singh	DBS Dr Birpal Singh			

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G. Ravichandran, ICAR-IIO...	K L Mary Rani	V Praveen Rao VC, PJTSAU	subramanian	Dr. T. Vidhan Singh, IRR...	Aniha Pedapati, ICAR-IIO...
Dr Ravindra Singh	Bhagya HP	Dr. M. Patidar	Bhaskar, ADG	Suresh Kancharla, ICAR-II...	K. RAMACHANDRUDU
Dr. M. V. Prasad, ICAR-IIO...	B. Kalyan Babu IOPR	Maheswarappa HP	TSP SCSP	S.Rami Reddy	310535853
RK Mathur	Dr S S Rao ICAR-NBSSLU...	Rethinam	Govindakrishnan PM	Manorama Kamireddy	Ravi bhat
Dr B L Manjunath	Man Singh	DBS	Dr Birpal Singh	MIC	Turn off camera