



Research Paper

Article history :

Received : 24.11.2012

Revised : 26.03.2013

Accepted : 10.04.2013

Effect of seaweed gel on physiological parameters in tomato hybrid COTH 2

■ P. SELVAKUMARI AND K. VENKATESAN¹

Members of the Research Forum

Associated Authors:

¹Department of Vegetable Crops,
Tamil Nadu Agricultural University,
COIMBATORE (T.N.) INDIA

Author for correspondence :

P. SELVAKUMARI

Horticultural College and Research
Institute, PERIYAKULAM (T.N.)
INDIA

Email : dazzlinghorts@gmail.com

ABSTRACT : A study has been conducted to study the effect of seaweed gel on physiological parameters in tomato hybrid COTH 2 in the College Orchard, Horticultural College and Research Institute, Coimbatore during 2008-09. There were ten treatments including one absolute control. The trail was laid out in a Randomized Block Design with three replications. Physiological attributes such as total soluble protein, chlorophyll content, chlorophyll stability index, IAA oxidase activity, peroxidase activity and relative water content were recorded more in T₇ (NPK @ 200:300:200 kg ha⁻¹ + O6 EM and MA GEL @ 12.5 kg acre⁻¹ + O6 EM and MA GEL 1% spray).

KEY WORDS : Tomato, Seaweed gel, Physiological parameters

HOW TO CITE THIS ARTICLE : Selvakumari, P. and Venkatesan, K. (2013). Effect of seaweed gel on physiological parameters in tomato hybrid COTH 2, *Asian J. Hort.*, 8(1) : 158-163.

Tomato (*Solanum lycopersicon* Mill.) is one of the most important fruit vegetable commercially grown throughout the world. Tomato is one of the most “protective food” because of its nutritive and therapeutical values. It is a good source of vitamin A, C and potassium. Lycopene, the pigment which imparts red colour to tomato is a potential antioxidant and prevent some form of cancer by minimizing the damage caused by free radicals.

Tomato is popularly grown throughout India and the major tomato producing states are Maharashtra, Bihar, Karnataka, Uttar Pradesh, Orissa, Andhra Pradesh, Madhya Pradesh and Assam. The application of seaweed extract enhanced the amount of photosynthetic pigments, *Gracilaria edulis* in cowpea and black gram (Lingakumar *et al.*, 2002) and *Spyridia hypnoides* (Sobithabai *et al.*, 2007 in bhendi).

Whapman *et al.* (1993) observed that application of SLF obtained from brown seaweed *Ascophyllum nodosum* increased the chlorophyll content of cucumber cotyledons and tomato plants. The seaweed extract prepared from *Sargassum* (20%) as seed treatment had significant increase in chlorophyll, carotenoid, protein, sugar and lipid content (Selvaraj *et al.*, 2004 in bhendi and tomato). Seaweed application also increases the chlorophyll content and resistance to fungal, bacterial and insect attack. One of the

most pronounced effects of seaweed application on plants is the development of vigorous root system. Hence, the attempt was made to study the effect of seaweed gel on physiological parameters of tomato in college orchard, Coimbatore during 2008-09.

RESEARCH METHODS

An experiment was conducted to study the effect of seaweed gel on physiological parameters in tomato hybrid COTH 2 during 2008-09 at Department of Vegetable Crops, Horticultural College and Research Institute, Coimbatore.

The experiment consisted of ten treatments *viz.*,

Treatments detail	
T ₁	NPK @ 200:300:200 kg per ha (control)
T ₂	T ₁ + O6 EM and MA GEL@7.5 kg acre ⁻¹
T ₃	T ₁ + O6 EM and MA GEL@10 kg acre ⁻¹
T ₄	T ₁ + O6 EM and MA GEL@12.5 kg acre ⁻¹
T ₅	T ₂ + O6 EM and MA GEL 1% spray
T ₆	T ₃ + O6 EM and MA GEL 1% spray
T ₇	T ₄ + O6 EM and MA GEL 1% spray
T ₈	Vermicompost (2.5 t ha ⁻¹)
T ₉	Vermicompost (2.5 t ha ⁻¹) + O6 EM and MA GEL@12.5 kg acre ⁻¹
T ₁₀	Vermicompost (2.5 t ha ⁻¹) + O6 EM and MA GEL@12.5 kg acre ⁻¹ + O6 EM and MA GEL 1% spray