OA-24

Physiological and Biochemical Characteristic of Tomato Plants Derived from *in vitro* Culture with Elevated Al Content

Ratna Nirmala[1)], Livy Winata Gunawan[2'], Soelaksono[3)], and Oie Ban Liang[3)]

1) Faculty of Agriculture, Mulawarman University, Samarinda, Indonesia
2) Faculty of Agriculture, Bogor Agricultural University Bogor, Indonesia
3) Faculty of Math and Life Sciences, Bandung Institute of Technology, Bandung, Indonesia

Several tomato limes derived from cotyledons of tomato cultivar Intan had been recovered fro culture media supplemented with Al CI3, at the rate of 50, 100, 200, 300, and 400 mg Regenerants were acclimatized in mineral solution of MS salt without sugar but with Al C concordant to in vitro media. Physiological and biochemical characteristics were analyzed 6 we after acclimatization. Plantlets were grown in pots filled with topsoil from Kentrong Area. Pla production and nutrional quality of fruit were osberved.

Plantlets showed now differences in protein content in leaf and root compared to those from see of Intan even growth in nutrition solution with Al CI3. Al, P, and Ca content of aerial part of plantle were also not significantly different.

Root length, fresh and weight of aerial part of plants were not significantly differents betwen plan from various in vitro conditions. However number of fruit produced was significantly higher in plan derived from culture in high all content. The highest number of fruit per plant : 17.17 was observ in plants recovered from 400 mg/l Al CI3, while the seed derived plants only produced 8.8 fruits.

The heaviest fruit was also harvested from plants recoverd from 400 mg/l Al CI3 with 466.3 g fre weigth and 14.7 g dried weight. There was no significant differences in total sugar and vitamin contents of fruit obtainted.