

E204 Effect of Jasmonic Acid and Wounding on Polyphenol Oxidase
in Tomato Seedlings

Sun Young Jin* and Jung Hee Hong
Department of Biology, Pusan National University

The effects of jasmonic acid(JA) and wounding on polyphenol oxidase(PPO) in tomato seedlings were investigated. PPO was strongly induced by JA or wounding and was also shown to be systemically induced by wounding. JA and abscisic acid(ABA) acted similarly on both unwounded and wounded leaves, but the amount of PPO in the wounded leaves was always more than in the respective controls. Mechanical wounding in a leaf produced a signal that caused the concentration of PPO to increase in the unwounded leaf. Severity of wounding and light intensity also affected wound-induced change in the concentration of PPO. JA showed a stimulatory effect on the aging of the leaves, as indicated by the loss of chlorophyll and the rapid increase in activity of PPO. The PPO was clearly more active in the wounded aging leaves than in controls. It is concluded that exogenously applied JA act as stress agents and PPO may be a component of the inducible anti-herbivore defense response.

E205 Proline Accumulation in *Vigna angularis* Seedlings Exposed to NaCl salinity

Hee Kyung Lee* and Jung Hee Hong
Department of Biology, Pusan National University

The changes in proline level of *Vigna angularis* seedlings in response to NaCl treatment have been monitored. Addition of exogenous proline to seedlings increased shoot and root elongation and endogenous proline content. The proline content in shoots increased progressively with an increase in length of time of exposure to salt stress as well as in a concentration-dependent manner. Root exhibited a fluctuating pattern of proline accumulation. Detached leaves also showed a rise in proline level, though a lower magnitude than in intact seedlings in response to applied NaCl. Pre-treatment with proline to seedlings before a salinity treatment lasting 48 h did not affect significantly the endogenous proline level in shoot, on the contrary, a considerable increase of proline in the roots was observed. Salt stress alone resulted in an increase of proline content and significant inhibition of chlorophyll content. Proline alleviated the inhibitory effect of NaCl in a concentration-dependent manner. The possibility of proline involvement in salt tolerance is suggested.