

V at V-camera stands for "virtually peeling". In this method and technology the potato, or other skinned fruit or vegetable, is virtually peeled by measuring the NIR transmission of potatoes and simultaneously measuring the NIR reflection from the potato skin.

**NON - DESTRUCTIVE PHOTOSYNTHETIC DETERMINATION OF  
BEAN PLANTS ( PHASEOLUS VULGARIS L.)  
RESPONSE TO SALT STRESS**

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Table 1

Parameters of chlorophyll fluorescence in dark adapted leaves of control and salt stressed bean plants. (\* P<0.5; \*\* P<0.1;)

		<b>Fo</b>	<b>Fm</b>
<b>cv. Lody</b>	Control	549±24	2115±47
	NaCl	623±21** (123)	1720±58 (81)
	Na <sub>2</sub> SO <sub>4</sub>	715±31** (130)	1620±66 * (76)
<b>cv. Gina</b>	Control	577±25	2185±51
	NaCl	625±19 (108)	1813±47 (82)
	Na <sub>2</sub> SO <sub>4</sub>	690±21* (119)	1618±62**(77)
<b>cv. Tara</b>	Control	560±28	2080±22
	NaCl	585±22 (105)	1872±48 (90)
	Na <sub>2</sub> SO <sub>4</sub>	620±19 (111)	1830±31 (88)
		<b>Fv</b>	<b>Fv/Fm</b>
<b>cv. Lody</b>	Control	1566±48	0.740±0.028
	NaCl	1117±29* (65)	0.645±0.031 (87)
	Na <sub>2</sub> SO <sub>4</sub>	975±51** (62)	0.601±0.030 (81)
<b>cv. Gina</b>	Control	1608±44	0.735±0.029
	NaCl	1188±22* (72)	0.655±0.032 (89)
	Na <sub>2</sub> SO <sub>4</sub>	992±51** (64)	0.589±0.019* (80)
<b>cv. Tara</b>	Control	1525±71	0.733±0.033
	NaCl	1287±44* (84)	0.687±0.040 (93)
	Na <sub>2</sub> SO <sub>4</sub>	1210±61 *(79)	0.661±0.037 (90)

Table 2

Parameters of chlorophyll fluorescence in light adapted leaves of control and salt stressed bean plants. (\* P<0.5; \*\* P<0.1; \*\*\* P<0.01).

		Y	qP
<b>cv. Lody</b>	Control	0.508±0.022	0.650±0.031
	NaCl	0.279±0.018** (55)	0.390±0.029 (60)
	Na <sub>2</sub> SO <sub>4</sub>	0.254±0.031** (50)	0.357±0.022**(50)
<b>cv. Gina</b>	Control	0.539±0.022	0.620±0.041
	NaCl	0.300±0.028** (56)	0.446±0.029 *(72)
	Na <sub>2</sub> SO <sub>4</sub>	0.258±0.033*** (48)	0.421±0.021**(68)
<b>cv. Tara</b>	Control	0.489±0.025	0.635±0.044
	NaCl	0.332±0.021* (68)	0.539±0.022 (85)
	Na <sub>2</sub> SO <sub>4</sub>	0.293±0.019**(60)	0.476±0.028 **(75)
		qN	ETR
<b>cv. Lody</b>	Control	0.450±0.023	124.9±6.8
	NaCl	0.540±0.017* (120)	68.6±4.4**(55)
	Na <sub>2</sub> SO <sub>4</sub>	0.585±0.021**(130)	62.5±5.9**(50)
<b>cv. Gina</b>	Control	0.548±0.027	132.5±5.5
	NaCl	0.685±0.019* (125)	73.8±6.1 *(55)
	Na <sub>2</sub> SO <sub>4</sub>	0.723±0.011** (132)	63.5±4.4**(48)
<b>cv. Tara</b>	Control	0.575±0.021	120.0±4.8
	NaCl	0.661±0.028 (115)	81.9±4.2* (67)
	Na <sub>2</sub> SO <sub>4</sub>	0.678±0.033* (118)	72.0±5.0* (61)

Using of non-destructive methods of chlorophyll fluorescence characteristics of photo system II (PSII) to determine the beginning of the salt stress in plants, were studied. The bean plants (cultivars Lody, Gina and Tara) were grown in pots as hydroponics cultures in a half-strength Hoagland nutrient solution. The plants were treated for 7 days with NaCl and Na<sub>2</sub>SO<sub>4</sub> (concentration of 100 mM). It was found that salt stress increases initial (F<sub>0</sub>) fluorescence and decreases maximal (F<sub>m</sub>), and variable (F<sub>v</sub>) fluorescence, as well as F<sub>v</sub>/F<sub>m</sub> parameter in dark adapted leaves. In light adapted leaves a significant decrease in quantum yield (Y), photochemical quenching (qP) and electron transport rate (ETR) of PSII was occurred. In conclusion, it is considered that cv. Tara is more tolerant and cv. Lody is more sensitive to salt stress. The applied Na<sub>2</sub>SO<sub>4</sub> caused stronger inhibition for all cultivars than those treated with NaCl.