

Supplementary materials



Figure S1. Plant materials of red sweet pepper *Capsicum annuum* L., ecotype “Altino”, utilized for the “agronomic” experiments in 2017: A, phenotype named as 97; B, phenotype named as 99. The phenotypes were selected based on the keeper farmers’ local knowledge, starting from 2015.

Table S1. Mainly morphological characteristics of fruits of red sweet pepper, ecotype “Altino”: length (cm fruit⁻¹), diameter (cm fruit⁻¹), and fresh weight (FW, g fruit⁻¹). Means \pm standard errors ($n=100$) are reported. Phenotypes indicated as 97 and 99 are showed in Figure S1.

Phenotype	Length (cm fruit ⁻¹)	Diameter (cm fruit ⁻¹)	FW (g fruit ⁻¹)
97	13.7 \pm 1.6	2.7 \pm 0.4	23.1 \pm 1.7
99	15.6 \pm 1.8	2.7 \pm 0.2	22.0 \pm 2.1

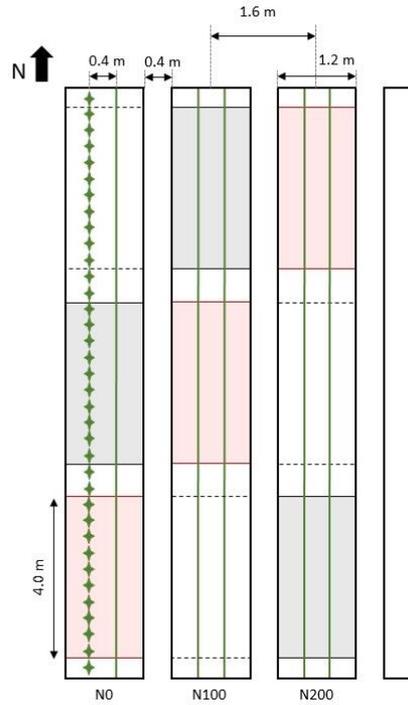


Figure S2. Layout of a single repetition of the experimental field setted on the Research Centre for Vegetable and Ornamental Crops, Council for Agricultural Research and Economics (CREA-OF), located in Monsampolo del Tronto (AP), Italy, in 2017. Experimental design (split-plot design) consisted of nine sub-plots obtained by splitting the main plots into three areas of equal size. The three N treatments represented the main plots (0_N: 0 Kg N ha⁻¹; 100_M: 100 kg N ha⁻¹; 200_N: 200 kg N ha⁻¹); the three shade treatments represented the sub-plots (RN=red photo-selective net, depicted as red rectangle; BN=black photo-selective net, depicted as grey rectangle; Control=unshaded; depicted as white rectangle). Green symbols represent pepper plants. This layout was repeated 3 times with a different randomization. Two adjacent experiments were conducted (Exp_1 and Exp_2).

Table S2. Principal differences as recorded under red (RN) and black (BN) photoselective nets with respect to unshaded control (Control) in 2017. DQI: irradiance total daily quantum input; PAR: photosynthetically active radiation; DAT: days after transplanting; RH: relative humidity. DQI, % shading, mean temperatures and RH data are averaged over pepper growing cycle; % scattering represents the means of 3 independent measurements recorded during crop cycle.

	Light treatment		
	Control	RN	BN
DQI (mol m ⁻² day ⁻¹)	45.6	34.9	27.3
Shading in the PAR range (%)	-	23.8	40.4
Scattering in the PAR range (%)	-	15.4	12.1
Daytime mean temperatures (°C)	30.0	30.5	29.7
Night mean temperatures (°C)	19.9	19.8	19.5
RH (%)	58.4	57.8	59.6
Beginning of fruit formation (DAT)	14	17	16