

**Table II.** Calculations of the number of starch granules per chloroplast using method 2

|  |  | Average No. of Starch Granules per Chloroplast | Starch Content of Leaf            |
|--|--|--|-----------------------------------|
|  |  |  | <i>mg g<sup>-1</sup> fresh wt</i> |
| Experiment 1: time of day <sup>a</sup> | End of night   | 5.8 ± 0.3                                      | 0.21 ± 0.08                       |
|  | Middle of day  | 5.1 ± 0.3                                      | 4.98 ± 0.74                       |
|  | End of day   | 5.5 ± 0.3                                      | 8.40 ± 0.33                       |
| Experiment 2: light level <sup>b</sup> | 180 $\mu\text{mol quanta m}^{-2} \text{ s}^{-1}$   | 4.9 ± 0.2                                      | 5.64 ± 1.09                       |
|  | Transfer to 245 $\mu\text{mol quanta m}^{-2} \text{ s}^{-1}$ before harvest <sup>c</sup> | 4.8 ± 0.2                                      | 5.35 ± 0.65                       |
|  | 245 $\mu\text{mol quanta m}^{-2} \text{ s}^{-1}$   | 4.9 ± 0.3                                      | 2.85 ± 0.35                       |
| Experiment 3: daylength <sup>d</sup>   | Middle of day, 16 h light  | 5.5 ± 0.5                                      | 5.73 ± 0.44                       |

<sup>a</sup>Plants were grown in 12 h of light, 12 h of dark. For end of night, values are means ± SE of eight measurements on four chloroplast preparations from each of two separately grown batches of plants. For middle of day and end of day, values are means of 12 measurements on four chloroplast preparations from each of three separately grown batches of plants. <sup>b</sup>Plants were harvested in the middle of the light period (6 h of light). Values are means ± SE of measurements on four chloroplast preparations. <sup>c</sup>Plants were grown at 180  $\mu\text{mol quanta m}^{-2} \text{ s}^{-1}$  and transferred to the higher light level 24 h before harvest; they still experienced the 12-h night as normal. <sup>d</sup>Plants were grown in 16 h of light, 8 h of dark and harvested in the middle of the light period. Values are means ± SE of measurements on four chloroplast preparations.