

TABLE 1

METABOLITE LEVELS IN THE CHLOROPLAST COMPARTMENT IN INDEPENDENT EXPERIMENTS

These results are from five different protoplast preparations, obtained over a period of 3 months. Protoplasts were incubated and fractionated exactly as in Fig. 1. The levels of metabolites were determined by enzymatic substrate analysis, and were corrected for cross contamination.

Time in light (min)	Expt. No.	Amount (nmol/mg chlorophyll) in chloroplast compartment of								CO ₂ fixation (μmol/mg chlorophyll per h)
		Rib-1,5-P ₂	Glc-6-P	Fru-6-P	Fructose-1,6-P ₂	Triose-P	3-Phospho-glycerate	ATP	P _i	
0	1	11.1	53.1	18.9	10.1	7.3	66.4	—	—	
	2	11.0	69.2	20.2	3.9	9.8	46.2	11.2	362	
	3	—	59.7	27.2	6.1	17.2	33.7	—	—	
	4	13.2	—	—	12.2	21.7	70.1	5.5	336	
	5	23.1	48.1	—	3.1	16.6	40.1	5.2	262	
	μ ± S.E.	14.6 ± 2.9	57.5 ± 1.6	22.1 ± 1.6	7.1 ± 1.7	14.5 ± 2.6	51.3 ± 7.1	7.4 ± 2.0	320 ± 59	
0.5	1	12.9	43.4	12.1	42.1	28.1	52.4	—	—	
	2	15.3	46.2	16.0	37.9	38.6	38.0	19.0	271	
	3	—	31.8	10.3	23.8	26.7	17.0	—	—	
	4	20.3	—	—	43.1	43.9	40.1	11.3	280	
	5	53.1	42.0	—	39.2	23.6	20.0	12.4	112	
	μ ± S.E.	25.4 ± 9.3	40.8 ± 3.1	12.8 ± 1.7	37.2 ± 3.5	32.2 ± 3.8	33.5 ± 6.6	14.2 ± 2.4	221 ± 32	
2	1	24.2	23.7	12.5	32.9	24.6	103	—	—	
	2	21.9	35.7	15.8	30.1	27.5	64.5	14.4	211	
	3	—	24.3	24.0	24.7	26.1	58.7	—	—	
	4	36.2	—	—	34.8	21.8	81.7	8.4	207	
	5	47.1	35.1	—	39.3	42.0	90.2	5.8	56	
	μ ± S.E.	32.3 ± 5.8	29.7 ± 3.3	17.4 ± 3.4	32.3 ± 2.4	28.4 ± 3.5	79.8 ± 8.3	9.5 ± 2.5	158 ± 53	
4	1	12.5	23.2	10.5	27.9	23.4	76.3	—	—	135
	2	17.5	35.6	12.8	22.9	24.3	52.9	13.5	171	89
	3	—	11.8	6.8	12.2	20.0	27.8	—	—	70
	4	27.5	—	—	37.0	32.4	59.2	8.5	114	73
	5	41.5	35.3	—	31.8	37.2	59.9	8.6	132	85
	μ ± S.E.	24.7 ± 6.3	26.5 ± 5.6	10.0 ± 1.7	26.4 ± 4.2	27.4 ± 3.1	55.2 ± 7.8	10.2 ± 1.6	139 ± 28	