

Table 1. *Distribution of chlorophyll and enzymes after the non-aqueous density fractionation of destarched and starch-containing leaves*

Leaves were freeze-dried, homogenized and fractionated, and chlorophyll content and enzyme activities were determined, as described in the Methods section. The total activity of each enzyme and the total chlorophyll content represents the sum of the individual fractions. The groups of enzymes are: 1, enzymes associated with mesophyll chloroplasts; 2, enzymes in both types of chloroplasts; 3, enzymes associated with parenchyma-sheath chloroplasts; 4, enzymes largely or completely unassociated with chloroplasts.

Enzyme	Destarched leaves						Starch-containing leaves					
	Total activity (μ moles/min.)	Distribution of activity among fractions of different density (%)					Total activity (μ moles/min.)	Distribution of activity among fractions of different density (%)				
		< 1.30	1.30- 1.33	1.33- 1.36	1.36- 1.40	> 1.40		< 1.30	1.30- 1.33	1.33- 1.36	1.36- 1.40	> 1.40
Chlorophyll	82*	62	27	5	3	3	108*	70	6	3	13	8
Group 1												
Pyruvate, P ₁ dikinase	0.07	56	28	5	5	6	0.20	65	8	5	14	8
Glycerate kinase	0.28	56	29	6	4	5	0.34	70	11	5	7	7
NADP-specific malate dehydrogenase	0.30	61	30	4	3	2	0.32	61	15	8	12	4
Group 2												
Adenylate kinase	6.9	58	26	6	4	6	9.4	54	9	6	15	16
Pyrophosphatase	3.0	47	40	5	8	3	4.8	51	5	4	24	15
NADP-specific glyceraldehyde phosphate dehydrogenase	1.0	51	35	6	5	3	1.5	46	5	5	28	16
Phosphoglycerate kinase	4.1	45	32	9	6	8	6.5	37	9	7	24	23
Group 3												
Ribulose diphosphate carboxylase	0.14	44	41	7	4	4	0.17	8	3	5	51	33
Phosphoribulokinase	2.8	33	35	9	10	12	4.2	8	4	4	44	40
Ribose phosphate isomerase	1.3	43	40	9	5	3	6.1	8	3	5	45	39
Fructose diphosphate aldolase	0.69	40	39	9	6	6	1.0	9	3	5	48	34
Alkaline fructose diphosphatase	0.04	46	47	0	3	3	0.11	6	4	4	62	24
NADP-specific 'malic' enzyme	0.66	43	44	6	3	5	0.60	10	4	5	63	18
Group 4												
NAD-specific malate dehydrogenase	2.3	15	21	13	19	32	3.2	22	11	12	28	28
Acid phosphatase	0.08	4	8	3	8	77	0.09	4	3	3	10	43
Phosphoglycerate mutase	0.26	17	18	11	16	38	0.42	17	8	10	22	80

* Total chlorophyll content (μ g.).