

Table 4. Minimum rate of metabolite transport in intact mesophyll chloroplasts and bundle sheath mitochondria of C<sub>4</sub> plants as indicated by reaction rates with exogenously supplied substrates. (After KAGAWA and HATCH, 1974a, 1975) (μmol/min/mg chlorophyll). *Z. mays*, NADP-ME-type; *A. spongiosa*, NAD-ME-type

Organelle and process	Reaction rate	
	<i>Z. mays</i>	<i>A. spongiosa</i>
Mesophyll chloroplasts		
Pyruvate influx/PEP efflux	1.5	3.8
oxaloacetate influx	2.5	3.0
malate efflux	3.1	1.2
3-PGA influx	1.6	4.5
DHAP efflux	—	4.4
Bundle sheath mitochondria		
C <sub>4</sub> acid influx	0.03	5–8