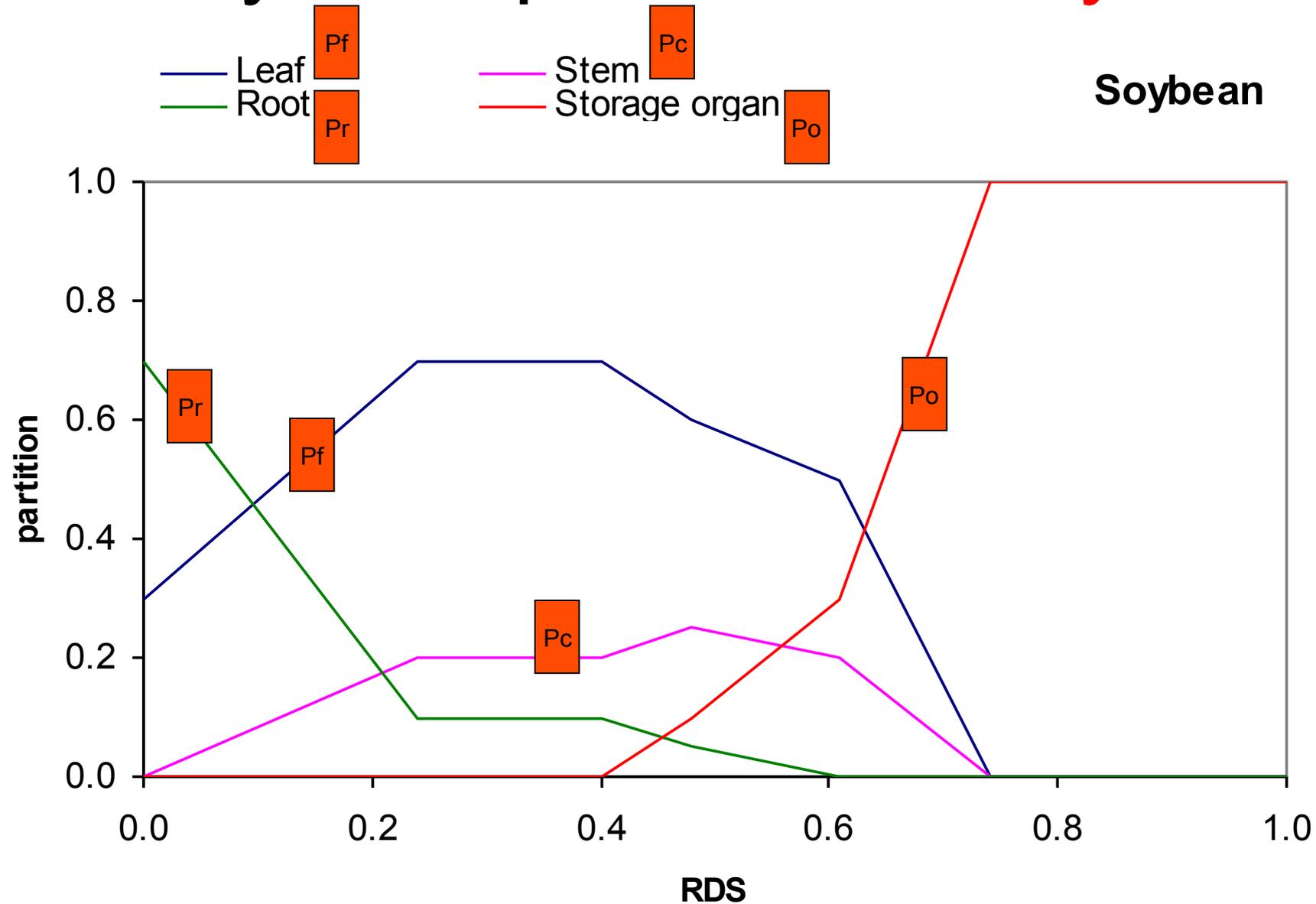
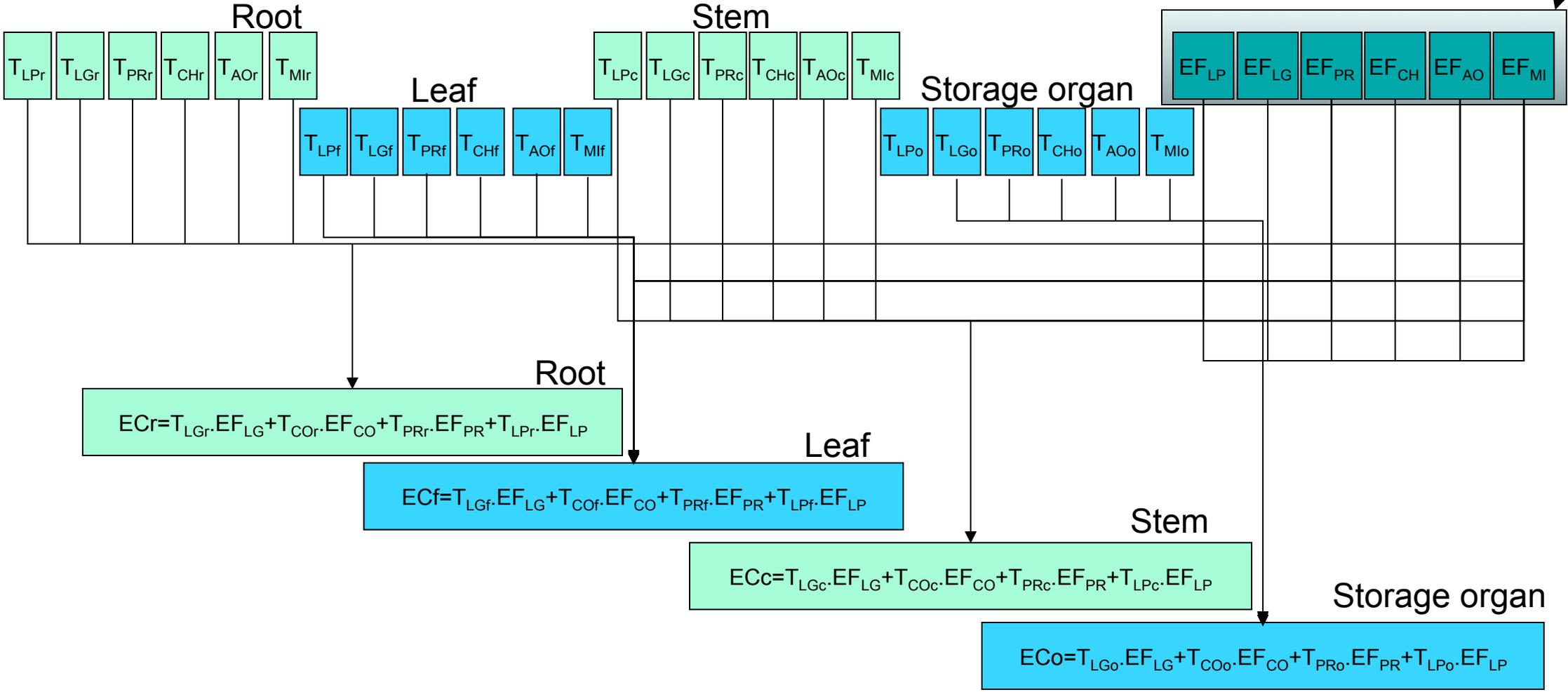


Carbohydrate partition on soybean plant



Conversion cost



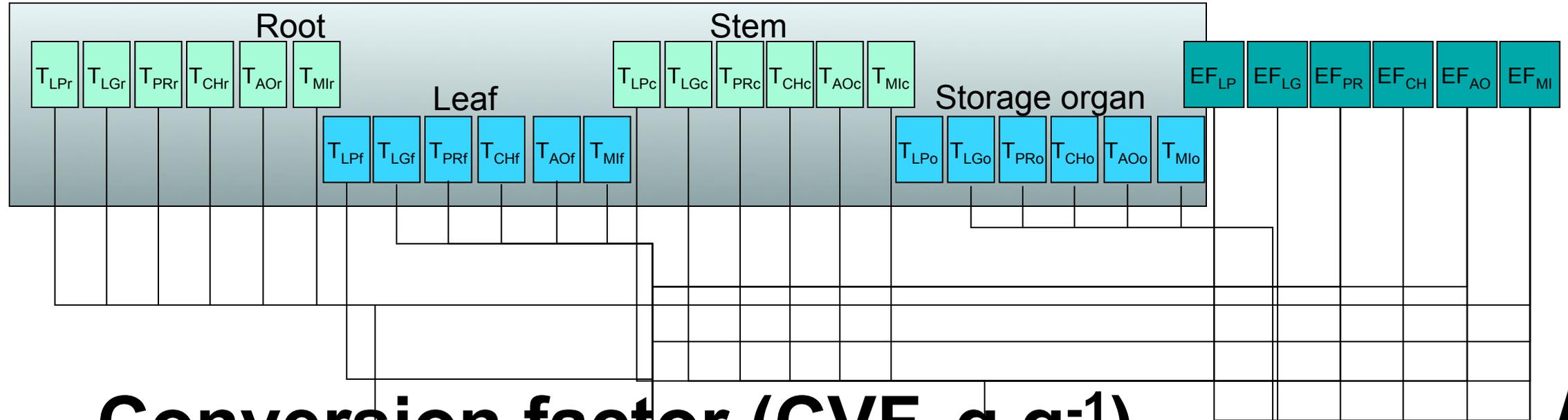
Characteristics of the biosynthesis of 5 groups of organic compounds, assuming that the least energy requirement pathways are followed (Penning de Vries, 1989)

Compound (Product)	A Biosynthesis cost ¹ g.g ⁻¹	B Transport cost ¹ g.g ⁻¹	C=A+B Conversion cost ¹ g.g ⁻¹ (g Glu per g Prod)	D=1/C Conversion factor ² (CVF) g.g ⁻¹ (g Prod per g Glu)
Lipid	3.030	0.159	EF _{LP} 3.189	0.31
Lignin	2.119	0.112	EF _{LG} 2.231	0.45
Proteins	1.824	0.096	EF _{PR} 1.920	0.52
Carbohydrates	1.211	0.064	EF _{CH} 1.275	0.78
Organic acids	0.906	0.048	EF _{AO} 0.954	1.05
Minerals (K, Ca, P, S)	0.000	0.120	EF _{MI} 0.120	8.33

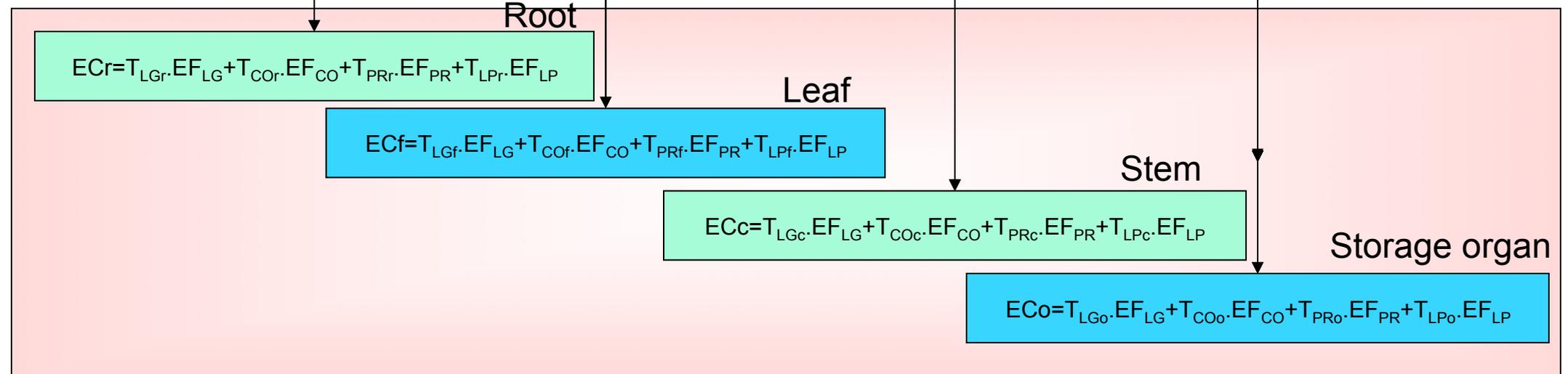
¹ g of glucose per g of product

² g of product per g of glucose

Chemical composition (g P per g DM) ↓



Conversion factor (CVF, g.g⁻¹) ↓



SOYBEAN chemical composition (g P per g DM) and conversion factor (CVF, g.g⁻¹) of a number of organs (Penning de Vries, 1989)

Organ	Major component	Carbohydrate	Protein	Lipid	Lignin	Organic acid	Mineral	CVF ²	
Leaf		T _{CHf} 0.52	T _{PRf} 0.25	T _{LPf} 0.05	T _{LGf} 0.05	T _{AOf} 0.05	T _{Mlf} 0.08	0.59	
Stem		T _{CHc} 0.62	T _{PRc} 0.10	T _{LPc} 0.02	T _{LGc} 0.20	T _{AOc} 0.02	T _{Mlc} 0.04	0.62	
Root		T _{CHr} 0.56	T _{PRr} 0.10	T _{LPr} 0.02	T _{LGr} 0.20	T _{AOr} 0.02	T _{Mlr} 0.10	0.64	
Storage organ	Pod with Seeds ¹	Pod: 20-40% Seeds: 80-60%	T _{CHo} 0.29	T _{PRo} 0.37	T _{LPo} 0.18	T _{LGo} 0.06	T _{AOo} 0.05	T _{Mlo} 0.05	0.46
			0.20-0.34	0.32-0.47	0.14-0.22	0.03-0.06	0.02-0.05	0.02-0.07	

¹ Average moisture: 7% (5-10%).

² g of product per g of glucose

THE POTENTIAL PRODUCTIVITY (Interaction between genotype, solar radiation, temperature, photoperiod and Pyraclostrobin effects)

