Regions of largest divergence are at the N-terminal. Almost no similarity was detected at the amino acid residues #1-#47 when the sequences were compared with each other in the overlapping regions. These observations suggest that perhaps the N-terminal end of the polypeptides are not related to the biological function of the plant enzyme. Another possible explanation is the presence of transit polypeptide at the N-terminal end. The various enzymes are located in different locations within the cell; some enzymes are in the amyloplast some are in the chloroplast while some are possibly in the cytoplasm. The N-terminal end is involved in transport into the various organelles and N-terminal amino acid sequence may differ according to the location of enzymes. The fact that there is no evidence for cleavage of a transit polypeptide with the Bt2 protein [Giroux, 1992] suggests that possibly this is located in a different site within the cell in comparison to the other plant enzymes.

It is interesting that the photosynthetic tissue enzyme, spinach leaf ADPglucose pyrophosphorylase shows great similarity, 88%, 94%, 89% to the non-photosynthetic tissue enzymes, rice endosperm, potato tuber and maize endosperm ADPglucose pyrophosphorylase respectively. The similarity between non-photosynthetic enzymes is 91% between maize and rice, 89% between maize and potato, and 90% between rice and potato. Therefore, the similarity comparison does not support the idea that non-photosynthetic enzyme, small subunits of