

Provided are methods and/or systems having advantages of cost effective, time saving, and informative user-friendly characteristics to accomplish trait introgression. The methods provided comprise determining presence of omega-3 fatty acids (for example docosahexanoic acid or DHA; docosapentaenoic acid or DPA; Alpha linolenic acid or ALA; and eicosapentaenoic acid or EPA) using Fourier Transformed Infra Red (FTIR) spectrum. The use of FTIR enables analysis of the oil contained in the seeds using a multivariate-based Mid-FTIR model. The methods and/or systems provided advantages of non-destructive analysis to provide information to facilitate trait introgression and other breeding applications.