Decision support systems for crop disease identification and management

Manuel Perez Ruiz[1], **Enrique Apolo-Apolo**[1]

[1] Ingenieria Aerospacíal y Mecánica de Fluidos, Universidad de Sevilla, Sevilla, Spain

In recent years there has been great progress in the use of optical sensors mounted on terrestrial, aerial, and satellite platforms with the objective of early detection of crop diseases and thus carry out specific applications of pesticide products. So, a scenario in which sensors are combined with smart DSS (Decision Support System) would be developed to achieve an efficient agriculture production management through real-time detection technology, crop precision monitoring, automation, and product quality assessment. Currently, most pesticides are applied in uniform dosages in fields, whilst diseases typically appear in patches, after which it starts spreading to the rest of the crop. Sensor systems including multi-spectral, hyper-spectral and chlorophyll fluorescence kinetic, capable of providing high-resolution data for crop health monitoring with advances in machine learning offer new prospects to precision agriculture.