Computer vision systems are already widely employed in differentsegments of agricultural production and industrial food production.It was identified that there are gaps to be filled with the develop-ment of intelligent devices that use computer vision and artificial in-telligence for automation of tasks in the field, as well as their integra-tion with agricultural machines and drones.Wheat, oat and barley cultivars, for instance,could benefit from a computer system that aims to reduce complexityand costs in the gluten-containing grains classification from images.Finally, our intention that this survey would present diverse appli-cations and techniques of machine learning, image and video proces-sing in order to motivate more researchers to apply them for solvingagricultural problems currently open.Referen