Computer vision systems are already widely employed in different segments 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 complexity and costs in the glutencontaining 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 solving agricultural problems currently open. Referen