Mass spectrometry is a powerful analytical tool used in several industries due to its sensitivity and selectivity. It has the ability to detect molecules within complex matrices when coupled to chromatographic separation techniques such as liquid chromatography. Depending on the mass analyzer, one can achieve a series of sophisticated experiments with a mass spectrometer to help identify and/or quantify analytes of interest. Mass spectrometry is extensively applied in the agriculture field, especially at Dow AgroSciences where it is used to support our Crop Protection (agricultural chemical) and Seeds (transgenic) platforms throughout the development and lifetime of a product. This talk will include a high level overview of Dow AgroSciences, and highlight examples of the use of mass spectrometry at Dow AgroSciences to solve complex analyte identification.