



# 150<sup>th</sup> Anniversary of Dichlorodiphenyltrichloroethane (DDT)

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**T**HE world has changed dramatically over the last two centuries due to the synthesis of some miraculous organic compounds. In synthetic organic chemistry, DDT is one of the compounds intimately associated with the historical, cultural, and scientific development of the world. The year 2024 marked the completion of 150 years of the synthesis of DDT. As a distinct discipline, synthetic organic chemistry started in the 19<sup>th</sup> century with the serendipitous synthesis of urea by Friedrich Wöhler. During the late 18<sup>th</sup> and early 19<sup>th</sup> century, a clear distinction emerged between “Inorganic compounds” and “Organic compounds”. JJ Berzelius, a Swedish chemist in 1807, applied the word organic to compounds derived from living organisms (plants and animals). In contrast, he used the term inorganic to describe compounds obtained from non-living substances. At that time, it was believed that the formation of the so-called organic compounds in plants or animals takes place under the influence of a unique life force or vital force, and their synthesis is not possible from non-living substances or inorganic compounds. This perspective persisted for a considerable period until the synthesis of urea (an organic compound in urine) shattered it.

In 1828, Friedrich Wöhler, one of the students of JJ Berzelius, unexpectedly prepared urea while attempting to prepare ammonium cyanate from cyanic acid and ammonia.

Wöhler also discovered that treating silver cyanate or lead cyanate with ammonium chloride solution produced urea.



Friedrich Wöhler