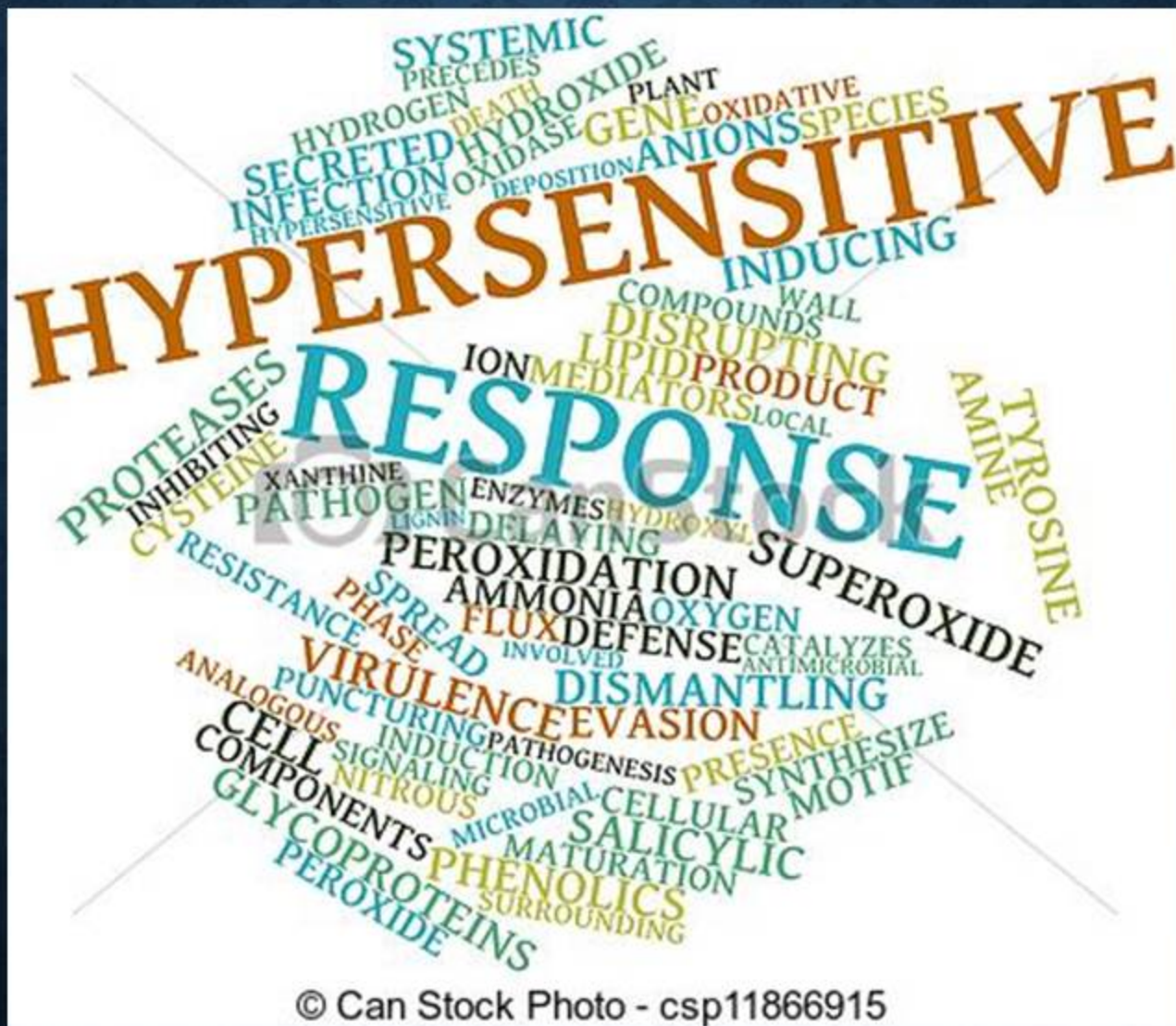


HYPERSENSITIVE RESPONSE (HR) ... AGAIN???



CONSTITUTIVE BIOCHEMICAL DEFENSE

Defense through:

- Lack of essential factors
- Lack of recognitions
- Lack of host receptor and sensitive sites for toxins in the host.
- Lack of essential nutrients for the pathogen (e.g. high sugar pathogens like *Helminthosporium oryzae*; *Erwinia carotovora* var. *atroseptica*)

INDUCIBLE BIOCHEMICAL RESPONSE

1. Hypersensitive response (HR)
2. Biochemical inhibitors produced in response to injury by pathogen:
 - Phenolics (Chlorogenic acid, caffeic acid)
 - Oxidation products of plants (floreitin)
 - Phytoalexins