

**CHEMICAL ECOLOGY: THE STUDY OF
INTERACTIONS AMONG LIVING ORGANISMS THAT
ARE BASED ON CHEMICAL COMMUNICATION**

HOW A PLANT FIGHTS BACK - AN EXAMPLE

**TOBACCO LEAVES ARE EATEN BY A MOTH
CATERPILLAR.**

**INFESTED PLANTS USE CHEMICAL WARFARE TO
FIGHT BACK.**

INFESTED PLANTS USE CHEMICALS IN TWO WAYS

**1 - AT NIGHT A MIXTURE OF 4 ESTERS + 1 UNK
COMPOUND IS SECRETED BY THE PLANT. THESE
SIGNAL PREGNANT MOTHS THAT THE PLANT IS
ALREADY INFESTED SO MOTH SEARCHES
ELSEWHERE TO LAY EGGS.**

**2 - IN THE DAYTIME, 2 TERPENES ARE SECRETED.
THESE ATTRACT A WASP THAT PREYS ON THE
CATERPILLAR.**

**SO, THE PLANT USES ORGANIC CHEMICALS TO
FOOL THE PREGNANT MOTHS INTO GOING
ELSEWHERE AND ALSO TO ATTRACT THE
CATERPILLAR'S NATURAL ENEMY.**