

FEATURE – USDA STUDIES CONNECTION BETWEEN ENVIRONMENT AND PLANT GROWTH

INTRO: USDA researchers are studying how to change the way and how fast plants grow in response to their environment. The USDA's Bob Ellison has more from Albany, California. (1:37)

U-S DEPARTMENT OF AGRICULTURE RESEARCHERS ARE STUDYING HOW PLANTS MAXIMIZE GROWTH IN VARYING ENVIRONMENTAL CONDITIONS. U-S-D-A AGRICULTURAL RESEARCH SERVICE SCIENTISTS ARE LOOKING AT HOW CHANGING A PLANT'S INTERNAL, OR CIRCADIAN, CLOCK COULD HELP CROPS YIELD FASTER AND GROW IN DIFFICULT PLACES.

Frank Harmon, Research Molecular Biologist, USDA ARS: Because the circadian clock is a timing mechanism, which tells the plant what time of day it is, it allows plants to organize themselves to anticipate and deal with daily changes in their environment.

A PLANT'S CIRCADIAN CLOCK HELPS IT RESPOND TO CHANGES IN SUNLIGHT AND TEMPERATURE. ULTIMATELY, IT AFFECTS HOW WELL CROPS GROW AND WHEN THEY ARE READY FOR HARVEST.

Harmon: If we can understand the way the clock affects flowering time in crop species, we can also affect the way it produces the food that we're interested in.

HARMON SAYS CROPS COULD BE MADE TO MATURE FASTER IN PLACES WHERE GROWING SEASONS ARE SHORTER OR TO TOLERATE DIFFICULT GROWTH CONDITIONS.

Frank Harmon, Research Molecular Biologist, USDA ARS: It provides the ability to perhaps grow crop species that you can't currently grow in certain areas. You would open up particular regions where you can grow these crops now or you can increase the number of field seasons that you can have to increase your yield. That opens up the capacity to be able to grow plants in marginal areas both in the United States but also in countries where there is not a very sophisticated agricultural infrastructure.

Bob Ellison, USDA: Researchers say that the link between the circadian clock and plant health has only recently begun to be understood. They hope that further research will help plant growth and health. In Albany, California for the U-S Department of Agriculture, I'm Bob Ellison.