

Masting in Trees



No, we're not talking about ship building, we're talking about seed production! Have you ever noticed that some years there seem to be acorns everywhere, while other years it seems that you really have to look to find any at all? It's not your imagination, trees produce different numbers of seeds in different years. The really interesting thing is that it seems to be a coordinated effort between trees of the same species in an area. This phenomenon is called masting and scientists are still trying to figure exactly how it works.

It takes a lot of energy to make a bumper crop of seeds, so trees sacrifice growth and next year's seed production in order to put out a good crop this year. We think it pays off by producing more seeds than the predators can possibly eat, something called predator satiation. Once the mice, squirrels, deer, turkey, and other animals have had their fill during a mast year, there are lots of seeds leftover that can produce new trees. During off years the seed production is much lower keeping the seed predator population relatively low.

Most masting trees are wind pollinated species such as oaks, beeches, pines, and spruces. As you wander different natural areas and even neighborhoods, take a look at the tree tops to see if this is a bumper crop year.



How do they do it?

There are several theories on how the trees coordinate their efforts.

Some scientists believe that communication through underground fungi help trees coordinate their seed schedules.



Trees release chemicals when they are under attack from pests and some people believe that similar chemicals could be used to trigger masting in tree communities.

Environmental conditions could also affect masting schedules. Although it doesn't seem related to exact quantities of rainfall, it may be related to other regional patterns like El Nino.

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