

Nature Week at Heritage Village - Sept. 6th

Ragweed

It is hay fever season! Ragweed pollen is the perpetrator of this nuisance irritation. Ragweed is purported to be the cause of 90% of the pollen-activated allergy in the United States, affecting between 20-30% of Americans, up to 80 million people.

This weed grows only in highly disturbed dirt, where even grass does not grow. Once the grass arrives the ragweed dies. So at Heritage Village we see it along the roadsides, where passing cars create a wind that helps disperse the pollen.

Humans react with a sensitivity allergy to a protein emitted by the pollen. Sensitivity means the more exposure the worse the symptoms get. One exposure causes our bodies to produce antibodies. Later exposures increasingly cause our bodies to over-react by releasing histamines and other substances that dilate capillaries and increase the leakage of fluids. Hence we sneeze, our eyes itch and turn red, and our nose runs.

The plant is well adapted to irritate us. The tall terminal stalk contains the male, pollen producing, flowers. These tiny males are clumped in groups of 15 to 25, protected by a leafy-like little covering like an umbrella. Each plant can produce a billion pollen grains per summer, with peak production being now, around Labor Day. One million tons of pollen are released per season in the United States.

The pollen falls or blows onto the female flowers that are lower on the stalk. One plant produces 3,000 to 4,000 seeds and these seeds can survive up to 40 years lying fallow in the dirt. They are ready to germinate anytime there is a new disturbance.

Because of the vast numbers of suffering Americans, drug companies are doing extensive research on methods to block the reactions. You can capitalize on this by 1) harvesting pollen and selling it to research institutions, or 2) participating in clinical trials.

The bad news is that warmer temperatures and higher CO2 levels are resulting in more pollen production over a longer season (like those other pests I reported earlier). At our latitude we are now experiencing 20 more pollen days per summer than in 1995. The good news is that the drug company Merck received approval from the U.S. Food and Drug Administration in 2014 for a pill called Ragwitek that reduces symptoms by 26% in adults.

Sometimes goldenrod is falsely blamed for hay fever. This plant, with the golden flowers, is pollinated by insects and just happens to bloom at the same season as ragweed. Ragweed is wind pollinated and hence has no need for colorful showy flowers. Hay is also harvested at the same time and was initially blamed for the condition, hence the lingering name hay fever.



Males flowers (above) peaking out from under their leafy cap, and tiny female flowers (below) down among the lacy leaves.



Pollen is used on forensic analysis for forged documents, fake antiques, authentication of paintings by master artists, removal of artifacts from historic or archaeological sites, illegal poaching of animals including fish, illegal pollution of the environment, and illegal drug production sources.



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a pollen grain

