Oak Anthracnose and other oak leaf diseases

Donald R. Owen
California Department of Forestry
And Fire Protection

1958

USDA Forest Service. 1958. Oaks and Laurels in California hard hit by leaf diseases. Misc. Paper No. 26.

1993

Owen, Donald R. 1994. Oak Anthracnose in the Sacramento Valley. Oaks 'n' Folks - Volume 9, Issue 1.

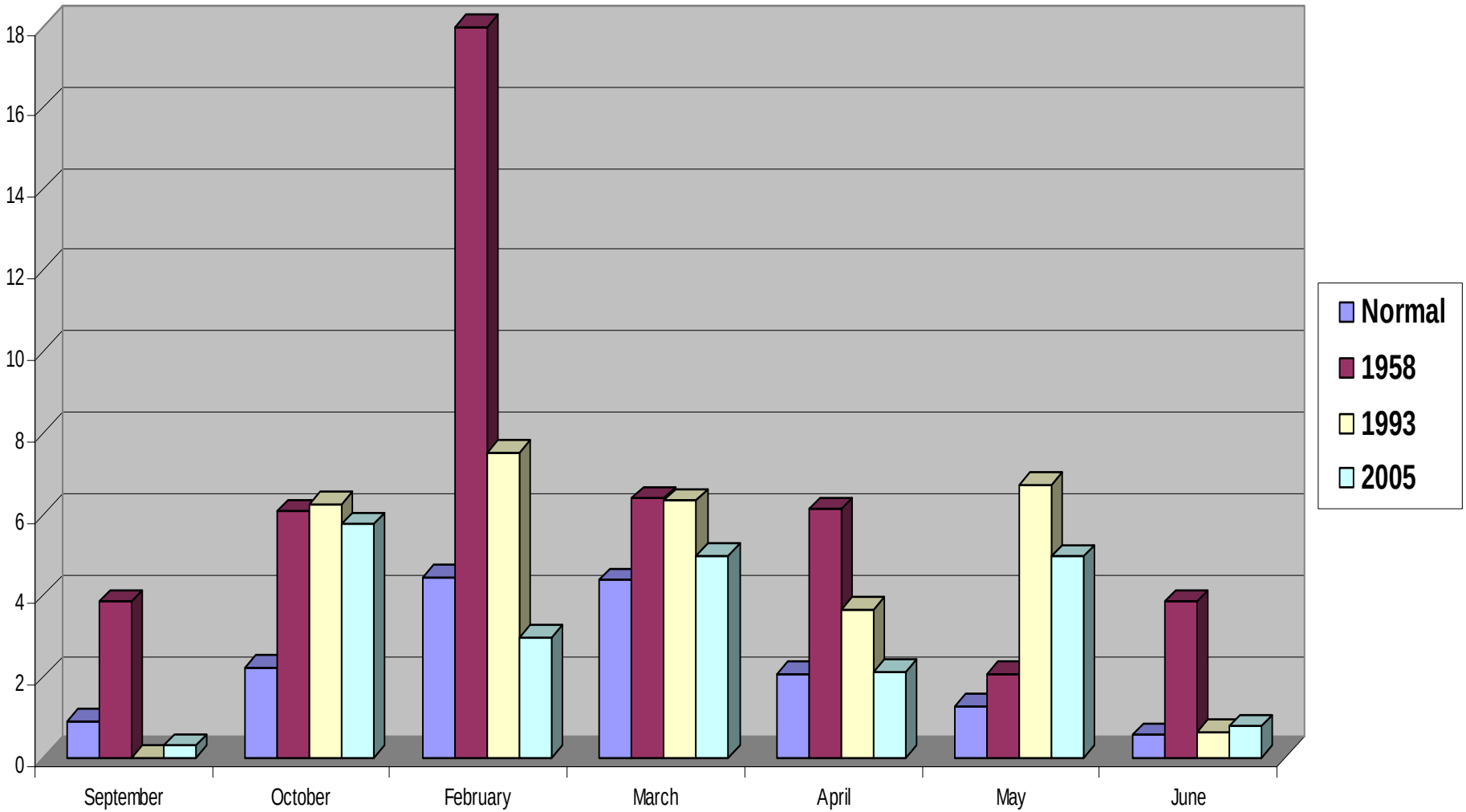
2005

Update

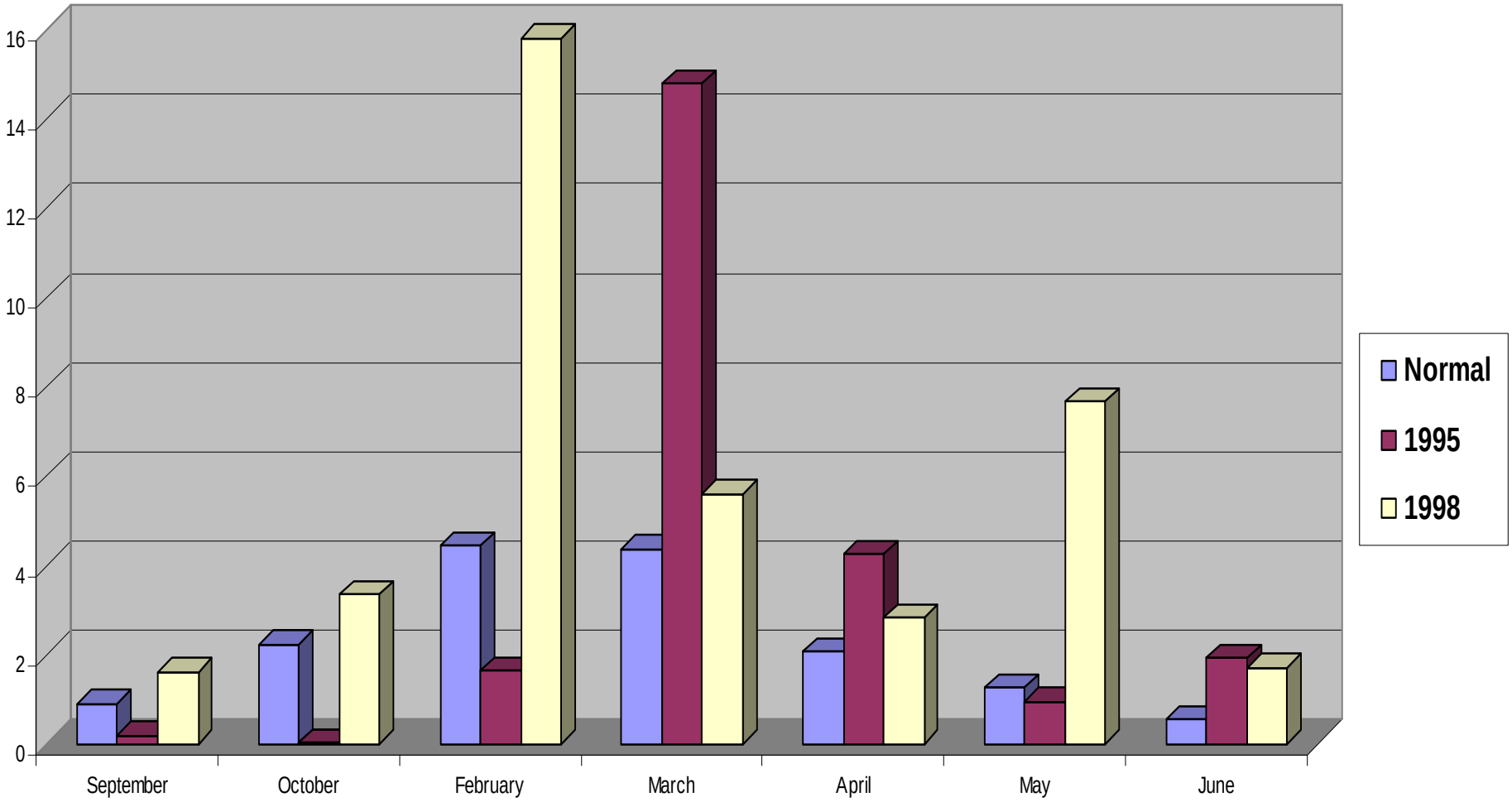
Weather plays an obvious role

- anthracnose fungi reportedly need water and cool to moderate temperatures to become damaging.
- fungi are always present, but the conditions that allow them to proliferate are not very common
- free water on leaves promotes spore germination and infection – some infection undoubtedly occurs every year
- high humidity and suitable temperatures encourage sporulation and set the stage for additional infection
- continued wet weather allows the cycle to repeat itself, creating high innoculum levels, infection and damage
- one of the most important ingredients for these out breaks is extended wet weather in the spring that is well above normal levels

Precipitation in Inches during severe outbreak years for oak leaf pathogens
Redding, CA



Precipitation in inches during moderate outbreak years for oak leaf pathogens
Redding, CA



Fungi

- If you look at the reported names of these fungi, it is easy to get confused

- Leave the naming up to the experts

-A number of fungi are involved. Some are known as anthracnoses, others simply as leaf spots

- Anthracnose:
"diseases caused by fungi that produce conidia in acervuli in necrotic lesions on leaves, flower parts, fruit, and stems" Sinclair, et al. 1987. Diseases of Trees and Shrubs.

Also, conidia are hyaline and single-celled

Most are spp. of *Apiognomonia*, *Discula*

2005 ***Discula umbrinella, Cylindrosporium kelloggii, Septoria kelloggii***

Appiognomonia errabunda, Septoria quercicola

1993 ***Discula umbrinella, Cylindrosporium kelloggii, Septoria quercicola, Discula quercina, Apiognomonia quercina***

1958 ***Gnomonia veneta, Septoria quercicola***

Damage

- visual, aesthetic / physiological stress
- blue oaks, in particular, appear to suffer the most
- Mortality appears to be rare
- twig dieback – not obvious
- *D. umbrinella*_ and some related fungi are capable of causing twig dieback in the absence of anthracnose symptoms on the leaves. **Twig Blight and Branch Dieback of Oaks in California**, Leaflet 21462.

Control

- prune branches, rake leaves, pile and burn
- fungicides
- fertilize to help trees rebuild lost food reserves