

# Seasonal Allergy Testing

## Optimized testing



What is the optimal number of allergens for seasonal allergy panels focused on tree, weed, grass, and mold allergens?



### Background

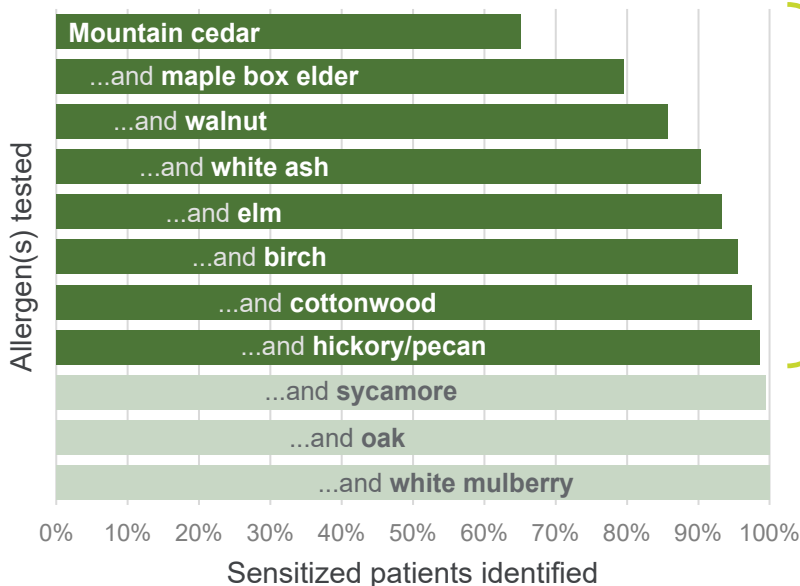
Diagnosing the cause of seasonal allergies may involve testing for many allergens, which may be both impractical and costly. A test panel consisting of a combination of specific allergens may help address these issues, but the optimal number and combination of allergens is unclear due to limited national data.



### Methods and Results

The study population consisted of patients (n=5,379) who were tested for specific seasonal allergies (ie, presence of IgE to allergens) at a large US clinical reference laboratory in 2019. Testing data were retrospectively analyzed to determine the minimum number and species of tree, weed, grass, and mold allergens to identify at least 98% of sensitized patients for each of these classes of allergens.

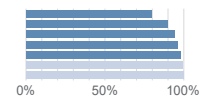
## Optimized testing for seasonal allergies<sup>1</sup>



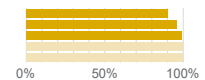
Testing 8 of 11 tree allergens identified  $\geq 98\%$  of tree-sensitized patients.

Results were similar for other classes;  $\geq 98\%$  of sensitized patients could be identified by

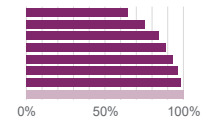
5 of 7 weeds<sup>a</sup>



3 of 5 grasses<sup>b</sup>



7 of 8 molds<sup>c</sup>



<sup>a</sup> Common ragweed short, rough pigweed, English plantain, lamb's quarters/goosefoot, and Russian thistle (mugwort and sheep sorrel also tested).

<sup>b</sup> June/Kentucky blue grass, Johnson grass, and Bermuda grass (Timothy grass and Bahia grass also tested).

<sup>c</sup> *Alternaria alternata*, *Aspergillus fumigatus*, *Mucor racemosus*, *Epicoccum purpurascens*, *Penicillium notatum*, *Helminthosporium halodes*, and *Fusarium moniliforme* (*Cladosporium herbarum* also tested).



A seasonal allergy test panel consisting of at least 23 allergens would identify  $\geq 98\%$  of patients sensitized to one or more of those allergens. This finding may help optimize testing for seasonal allergies.

1. Kwong KY, Chen Z, Scott L, Hilborne LH. Optimizing identification of allergic sensitization to seasonal inhalant allergens in the USA: implications for constructing optimal panels to evaluate patients with allergy. *Int Arch Allergy Immunol*. 2024 May 23:1-8. doi: 10.1159/000538420

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