

The third factor concerning the atmospheric pollen—namely, the length of the season of bloom—necessitates constant field survey. It can be divided into two periods—one, that of most intense pollination, which is the period chiefly concerning hay-fever; and a period before and after this when only odd plants are pollinating or pollination is limited to strictly local areas. The first period is bound to affect the majority of patients, whereas the second will affect individuals only. Experiments showed that the pollen is fairly evenly distributed throughout the atmosphere, though predominant local vegetation must influence the local pollen-cloud.

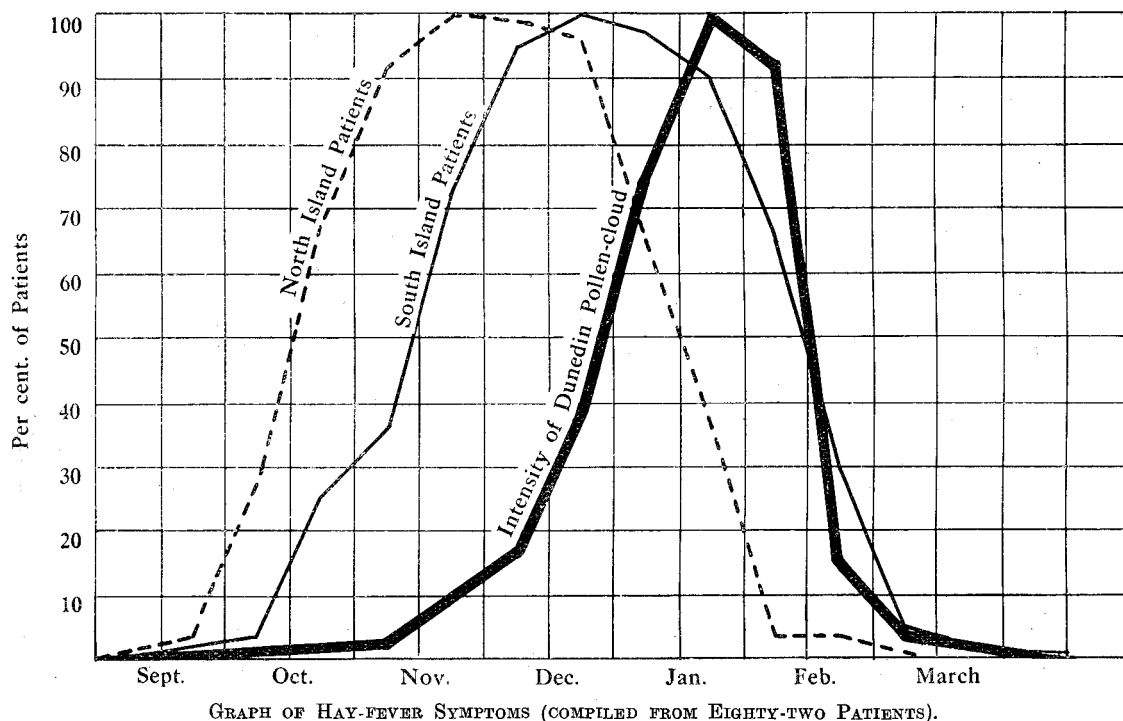
SUMMARY OF FINDINGS REGARDING THE WIND-BORNE POLLENS OF DUNEDIN.

The prevailing winds during the period of investigation were those from the north-east (sixty-three days) and south-west (sixty-one days). The greatest pollen-counts were obtained during north-easterly and north-westerly winds. South-westerlies, coming off the sea, and being frequently accompanied by rain, are relatively unimportant from our present point of view.

In September the chief pollens in the atmosphere are those of the pine and macrocarpa families. Poplar is also very abundant. Wattle and pussy-willow, probably quite abundant earlier, are about over, whereas silver-beech is just beginning towards the end of the month. In October pine, macrocarpa, ash, silver-beech, sycamore, oak, and broadleaf are pollinating strongly; and towards the end of the month tutu is almost the predominating pollen upon the plates, our greatest count being on the 28th, when tutu gave 192 grains to the square inch. A few grass-grains appear on the plates during the month, but hardly sufficient to be a potent hay-fever factor, except in strictly limited localities. During November pine, macrocarpa, sycamore, oak, and tutu still predominate in the atmosphere, and the native beeches are shedding their pollen in great quantities. Grass is steadily increasing, sweet vernal, *Poa annua* and *P. pratensis*, and cocksfoot predominating. In December and January the pollen-counts reached their maximum, and were almost entirely due to the grasses, of which the chief in December were cocksfoot, perennial and italian rye, and Yorkshire fog, and late in December and during early January crested dogtail. The native beeches are the chief tree pollen-producers during December. January gives us our densest pollen-cloud; the count on the 5th was 1,396 grains to the inch, 87 per cent. being grass, and practically only brown-top. This latter grass is extremely abundant throughout the district, is a prolific pollinator, and is the only important grass in January and February. February showed a rapid fall in the atmospheric pollen, the grasses practically disappearing in the latter half of the month; owing to this, regular counts were discontinued after February.

CORRELATION BETWEEN HAY-FEVER SYMPTOMS AND THE POLLEN-CLOUD.

The correlation between patient's symptoms and the atmospheric pollen is shown in the following chart.



This graph is composed from the observations of eighty-two patients. It is interesting to note that the two curves are almost identical, that for the North Island being approximately one month ahead of the South Island, in accordance with the dates of pollination. The peak in the North Island is during the latter half of November, in the South Island during late December. The atmospheric pollen-cloud for Dunedin, as found during the present investigation, is shown by the heavy line, and it is interesting to note that here the maximum pollen-concentration is during late January and early February, and is, as we have already seen, due almost entirely to brown-top. It