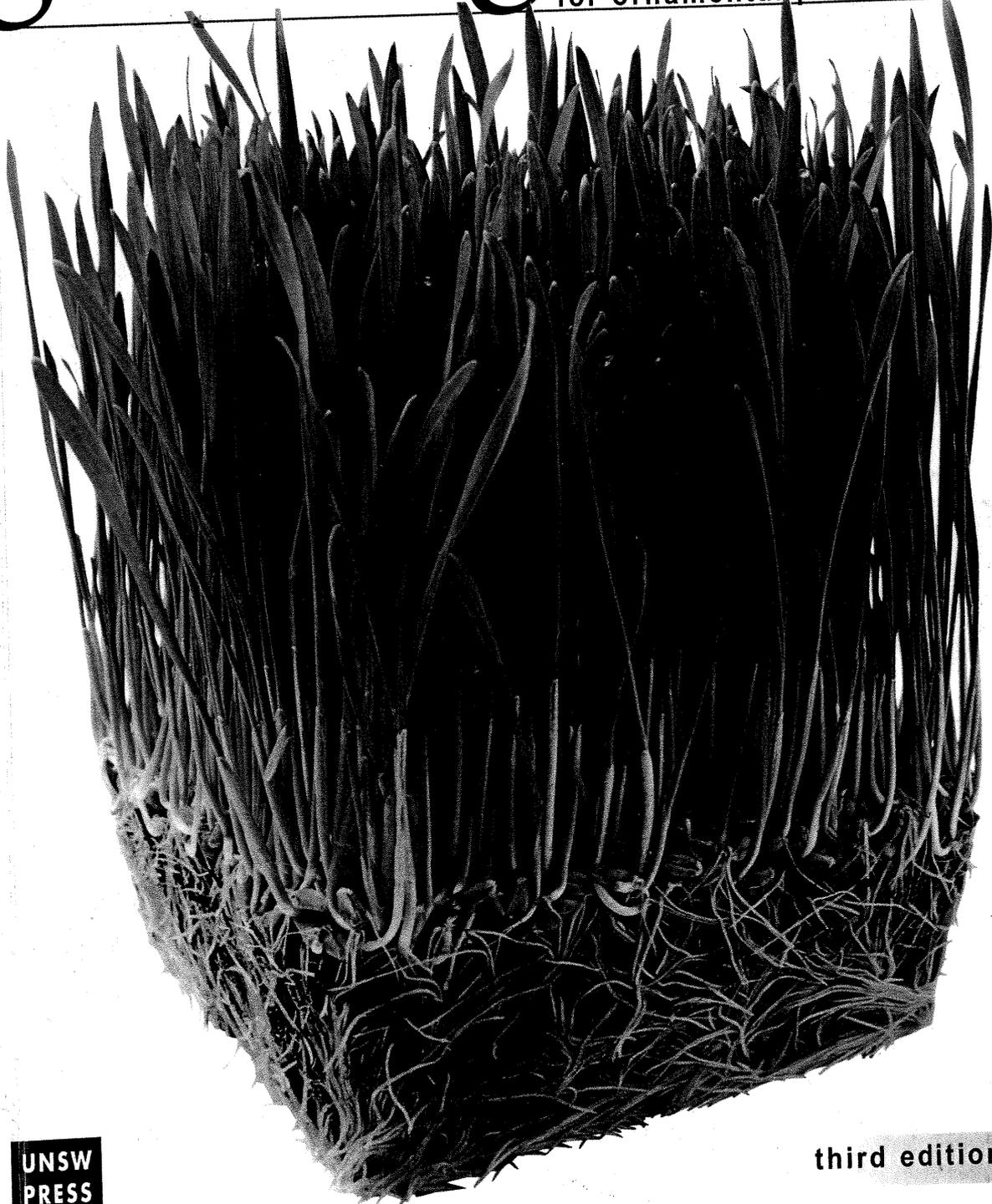


Ph
Making water

Kevin Handreck & Neil Black

growing media

for ornamental plants and turf



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pH

A caution: Measuring pH is probably the most common test done on growing media. This is partly because it is very easy to do, but also because pH is important. However, it is not so important that we must at all costs keep it within 0.1 of a unit of some 'ideal' value. For most practical situations, being within 0.5 of a value known to give good plant growth is sufficient. Some might consider this sloppy practice; we hope that the information on the next few pages will convince you that it is just being realistic.

EFFECT OF pH ON THE AVAILABILITY OF PLANT NUTRIENTS IN SOILS

The availability to plants of nutrients in growing media changes as pH changes. Figure 11.1 gives the information for mineral soils—that is, those containing only a few percent organic matter. That's most Australian soils.

It is clear that in the range pH 6 to 7.5 most nutrients are reasonably available to plants. Almost all have maximum availability in the range 6 to 7, so somewhere between the two is generally considered to be the ideal pH for the soils of gardens, sports fields and the general landscape. Many books suggest that we should aim for a pH of 6.5.

We want to stress here that there is no point in making a fetish of trying to get all soils to *exactly* pH 6.5, and keeping them there. Because:

- The data used to construct Fig. 11.1, and that on which the 'pH 6.5' statement has been based, were obtained using a variety of measurement methods, but mainly the saturated paste method. (See Chapter 33 for methods of measuring pH.) If we use a method that gives a higher pH for the same soil, we should aim at a higher 'ideal' pH. Approximate conversions between methods are given in Table 33.4.

FIGURE 11.1 (Left)
The availability to plants of nutrient elements varies with pH in this manner in mineral soils. The wider the bar, the greater the availability. From E Truog *US Dep. Agr. Yearbook*, 1941-47, pp. 566-76

FIGURE 11.2 (Right)
The availability to plants of nutrient elements in organic potting mixes varies with pH in this manner. Based on experimental data of K A Handreck for Australian potting mixes

