

MAINTAINING SOIL FERTILITY FOR NARCISSUS

J. S. COOLEY, *Maryland*

Most varieties of *Narcissus* give more and larger flowers and in general are much more satisfactory when grown in a humus enriched soil than when grown in a hard poor soil. Obtaining a fertile soil for the initial planting is not easy and the maintenance of such a condition is even more difficult, since the *Narcissus* plot must be given clean cultivation for part of the year. The writer has developed a procedure whereby the soil fertility of a *Narcissus* plot can be maintained or even enhanced during the 3 or 4 years in which the plants remain in the same plot.

The important aspect of the method is to keep the ground covered with a cover crop, preferably a legume when the *Narcissus* plants are not actively growing. The *Narcissus* bulbs are dug and reset every 3 or 4 years. Digging may be done in this location the latter part of June. The bulbs are reset as soon as dug and a cover crop of cow peas planted immediately. This is early enough for the cow peas to make splendid growth by frost time. The next spring after a crop of cow peas has been grown, the soil is free of weeds and very mellow and loose. Practically no cultivation is then necessary and the soil is so mellow that it is a joy to work it. A heavy yield of fine flowers is assured after the cow pea treatment. If more gardeners realized the value of humus in gardening there would be less burning of trash and more use of compost.

The cover crop should be supplemented with mineral fertilizer. Extreme caution, however, must be exercised in its application so as to prevent injury. This is especially true when it is applied at the time when the bulbs are planted. The procedure that has given good results with me is to work well into the soil acid phosphate at the rate of about 500 pounds to the acre (about 1.2 pounds to a bed 5 feet wide and 20 feet long) at planting time. As the tops emerge in early spring a mixed fertilizer as 5-8-5 is applied. This may be followed by one or more moderate applications of the 5-8-5 mixture according to the needs. The skillful use of mineral fertilizer is an important aspect of growing *Narcissus*. It is better however to proceed very cautiously and to underfeed rather than to overfeed. The relative importance of the three usual fertilizer elements N-P-K needs special study for one's particular soil requirements, some soils being low in one element and others in another.

If the *Narcissus* planting is in the flower garden, some flowering plant will need to be used for a cover crop. The common flowering *Portulaca* forms an attractive ground cover which shades the soil and checks erosion. Since *Portulaca* is not a robust grower and not a legume, the fertility of the soil should be kept up by adding compost and commercial fertilizer. In regions where *Crotalaria spectabilis* thrives it may be sowed as the *Narcissus* tops die and it will make a great display of yellow flowers the latter part of the season.

Where *Narcissus* are grown for cut flowers or for breeding purposes, a satisfactory way is to utilize a plot in the vegetable garden where a cover crop for soil improving purposes may be grown the latter part of the summer after the *Narcissus* tops die. In this case the most satisfactory cover crop the writer has used is cow peas (*Vigna sinensis*). Cow peas have several distinct advantages. They make a heavy vine growth from June till frost time. The dead cow pea vines are useful as a winter protection after the leaves are killed by frost. The vines readily rot, so that they do not seriously interfere with cultivation. A thick stand of cow peas prevents the germination of chick weed (*Stellaria media*) seed in late summer. This plant which is so prevalent in rich garden soil may be a very useful winter cover crop where the ground is turned in the spring, but may be quite a nuisance in a *Narcissus* planting where it interferes with the development of the bulbs in the early spring. Also considerable labor is required to clean a bulb bed of a mat of chick weed. Any procedure therefore that facilitates the control of chick weed in the *Narcissus* plot is a boon to the gardener.