

23 FERTIGATION WITH MICROJETS

In general, fertigation with microjets is approached similarly to hand or mechanical applications. The splitting of the nitrogen sources is exactly the same and based on the clay content of the soil. With fertigation an extra one or at the most two applications of N on sandy soils can be justified to improve efficiency. The volume of soil treated with water and fertilisers when hand applications or fertigation with microjets are done is almost the same. The splitting of N and P fertilisers, gypsum, magnesium oxide and lime are the same as presented in Table 45. Please note that gypsum, magnesium oxide and lime cannot be fertigated.

P as super phosphate still needs to be banded.

Fertigating potassium is the only difference between hand applications and fertigation with microjets. When potassium chloride or sulphate is applied in small quantities during the entire irrigation cycle, the absorption of K is improved, even under suboptimal soil conditions. This method proved to be successful in the Sundays River Valley. Potassium chloride was fertigated at 100g per tree over the total length of the irrigation cycle for 20 successive irrigations. Notwithstanding the adverse conditions in the soil (pH water = 7,20, %K = 2,5), the leaf status was improved from 0,56 to 1,44 over 6 years (Table 46).

Table 46. The effect of continuous applications of low concentrations potassium on the K status of leaves from a Valencia orchard.

	K% in leaves
1996	0,56
1997	0,74
1998	0,91
1999	1,24
2000	1,29
2001	1,44

Therefore only nitrogen, potassium, sulphur, iron and boron can effectively be fertigated when microjets are used.

Apply the fertilisers during the last quarter of the irrigation cycle and follow that with only enough water to clean the piping.

The effective distribution of the water is a prerequisite for successful fertigation with microjets. If the distribution of water is poor, the distribution of the fertilisers will also be poor.