

Fertilizer Application
Peter Baye, February 2015

I ask Peter Baye about how much fertilizer to use in pot plants.

This is his reply. Al Sydnor

Hi, Al.

As for the soluble salt fertilizers, the concentration you mix depends on the formula. The percentage of nitrogen, phosphorus, and potassium makes up the formula, by weight. 5-5-5 is half strength of 10-10-10, and so on. So there can't possibly be a single rate per gallon for all formulations because they are different strengths out of the bag. Almost all of the fertilizer you put into solution goes right out the bottom of the pot with the drain water. The plant probably absorbs at most a hundredth of the fertilizer you mix. It's kind of like vitamin pills: almost all of what you swallow comes right out in your urine because your body can't absorb as much as the manufacturer wants you to buy and use up.

Almost all fertilizer dosages recommended by the manufacturer are overdoses by a long shot, especially for small fuchsias. What they need is very light, highly dilute but regular dosages of fertilizer when they are actively growing and very little or none when they are growing slowly. The best way to tell how much they need is to watch how they respond to dilution of fertilizer. If they are growing fine with less, than less is enough. If they grow less satisfactorily with less, and better with more, they are still hungry. The plants are always right. It's the growth response rather than the manufacturer recommendations or dogma that is meaningful.

If you want an idea of how little fertilizer actually goes into a plant, take a bunch of pruned fuchsia wood, wrap them in foil, and put them in a hot fireplace ember until they turn to ash. The ash is the mineral part of the plant, and it's actually mostly calcium, rather than phosphorus and potassium. ("Potassium" is actually a word for "pot ash"). It's a tiny fraction of the plants mass. Most of it is water and carbon. Fertilizer doesn't go stale, but it can go soupy if it absorbs too much water from the air. They really can't degrade. I haven't used soluble salt fertilizer in 15 years. I use a mix of ashes from my wood stove and water leached from horse manure, all very diluted. I still have an old bag of 15-15-15 somewhere in my shed!

Substitutes for peat moss are a great idea! Peat is going the way of the dinosaur!

Peter Baye, PhD Botanist