

How to Tell When a Plant is Hungry By Eleanor Handreck

A plant is a 'one-eyed organism. It exists for one reason only. That reason, which also happens to be what drives every single plant and animal species on earth, is an irresistible urge to reproduce itself. It will do whatever is necessary to realize this powerful urge. In the wild, we can take it as a given that any individual species will be growing where soil, rainfall, light, and nutrition are suited to its needs for successful survival and reproduction. Plants can reproduce themselves in many ways. Some send out rhizomes or runners that have the ability to root at the leaf nodes. Others have the ability to generate roots on the end of a stem that, after being broken off, falls onto a favorable piece of ground (a cutting). In the world of flowering plants, the most common form of reproduction is via seed. To do this, the plant has to achieve two things. It has to grow large enough so that it can produce flowers and it has to be pollinated (fertilized) so that its ova (eggs) will be able to become fertile seeds. The beautiful and varied colors and shapes of the world's flowers are there to ensure pollination.

Now we will look at the plants that need to grow large enough, i.e. have enough foliage to produce flowers. This is not usually a problem in a forest, as a forest is generally a closed system where nutrients are continually being recycled. Nor is it usually a major problem in a garden bed. Gardens may also be closed systems, or they may be places to which compost or fertilizers are occasionally added. In any case, the plant roots can 'go hunting' for nutrients.

Life for a plant in a container is much less secure. Even if the plant is grown in a potting mix that suits the roots of the plant and light and water are adequate, the plant is still entirely dependent on the nutrients that the grower provides in the mix. Once the nutrients in the container are exhausted or used up the roots cannot 'go hunting'. There is nowhere for the roots to go.

If the supply of nutrients runs out what can a plant in a container do? Because the production of viable seed is the plant's most important activity, the production of flowers is given priority over the preservation of foliage. Even if the nutrients are in short and limited supply, the plant will try to produce flowers.

Flowering plants have developed an effective way of dealing with a limited supply of nutrients. When all of the nutrients (particularly the nitrogen) in a potting mix have been used up, the plant becomes a master recycler. It recycles the nutrients that it already has. It does this by taking the nutrients from its oldest leaves. Once the nutrients have been removed, the oldest leaves turn yellow and they will fall onto the surface of the potting mix. If they are not removed, they will slowly rot down and eventually become more nutrients. In the meantime, the nutrients that have been removed from the older leaves will have been transported to the growing end of a stem. Flowers (that have the potential to produce fertile seed) and new leaves will be produced.

If the plant in the container is still not fed, the recycling process will continue. Nutrients will be removed from the next oldest leaves. The leaves will yellow and drop. The recycled nutrients will be used to produce new flowers and leaves. This cycle of withdrawal and relocation of nutrients can go on for a long time if the plant is not fed. The result will be a plant with bare lower stems and with leaves and flowers at the growing end of the branches. It will not be a very attractive plant.

If you have a plant whose oldest leaves are progressively yellowing and dropping, you have a hungry plant. The plant is telling you that it needs nitrogen and the other major nutrients. Be kind to your plant: feed it!

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