

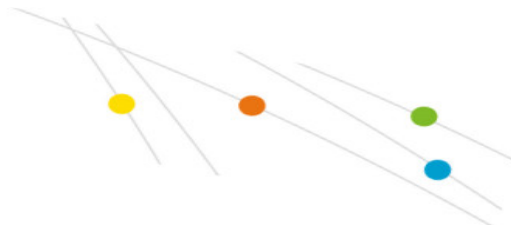


The relationship between the degree of mobility and boron deficiency

Highly mobile elements concentrate their deficiency symptoms in the mature, lower leaves, since they are easily transported from there to those in formation near the apex (tip) of the shoots. Contrarily, in case of elements with very low mobility, such as boron, the symptoms predominantly occur in the young leaves and the growing points. This is due to the fact that, in order to reach a deficiency status in the plant, those elements cannot be translocated from the mature leaves, where they have been assimilated or incorporated into cell structures.

Boron deficiencies cause general symptoms such as:

- Altered, curly leaves that are generally more fragile.
- Short internodes along with abundant lateral flowering.
- Stems become fibrous, weak and show cracks.
- Fruits are deformed and irregular as a result of incomplete pollination.
- Necrotic root tips affecting root development.



Deficiency Symptoms	Crop - Cultivo	Síntomas de Deficiencia
Apical necrosis of the shoot, development of mainly seedless berries on the bunch, reduced fruit set and fruit splitting.	Grape Uva	Necrosis apical del brote, corredera del racimo, reducción del cuaje y partidura de fruta.
Dry apices (tips), dull and leathery leaves, cracked branches, deformed fruit, gum deposits in the albedo layer of the peel, low juice content.	Citrus Cítricos	Ápices secos, hojas coriáceas y sin brillo, ramas con grietas, fruta deforme, goma en cáscara (albedo), escaso contenido de zumo (jugo).
Split stems, yellowish and brittle leaves, the stalks of the bunches are short and thick, lack of development in the locular cavities of the fruit, and, corky areas near the calyx.	Tomato Tomate	Rajadura del tallo, hojas amarillentas y quebradizas, pedúnculos de ramilletes son cortos y gruesos, falta de formación en lóculos del fruto, y áreas corchosas del cáliz.
Apical and marginal chlorosis, deformed fruit.	Pepper Pimiento	Clorosis apical y marginal, deformidad de frutos.
Stolon with cracks, roots and stems stop to grow, leaves have yellow edges, tubers are smaller with internal browning of the tissue.	Potato Papa	Estolón con grietas, detención de crecimiento en raíces y tallos, hojas con bordes amarillos, tubérculos de tamaño menor y oscurecimiento interno del tejido.
Small leaves, twisted or curved upwards, gum exudation in the fruits, abundant fruit drop.	Almond Almendro	Hojas chicas, retorcidas o curvadas hacia arriba, exudación de goma en los frutos, abundante caída de estos.
Lance head shaped, necrotic leaves, corky twigs, reduced pollen viability and reduced fruit set, deformed and small fruits.	Avocado Palto	Hojas en forma lanceolada y necrótica, corcho en ramillas, reducción de la viabilidad del polen y disminución de cuaja, frutos deformes y pequeños.
Curled and deformed leaves, malformed bunches.	Banana Plátano	Hojas encrespadas y deformes, malformación de racimos.