

缺硼症状



- 植物在营养不足时，除了生产缓慢之外，可能不会表现出其他明显的症状。当然，也可能是因为其他因素引起的生长缓慢。
- 在中度或严重营养不足时，大部分作物会表现出缺乏某种特定营养素时的明显典型症状。
- 了解缺硼症状有助于诊断缺硼情况。
- 应通过土壤测试和植株分析的结果确认缺素情况，并采取适当的施肥措施。

对很多作物已提供开花或结果之前上部成熟叶片的正常硼含量范围，硼含量水平在这些范围内的植物组织样本不太可能表现出可见症状。但是，此范围内的组织水平可能不足以实现高产和质优。

根据可见症状进行的诊断应通过土壤测试和植株组织分析的结果进行确认。

很多植物在缺硼严重时，缺硼症状会表现得很明显。此时，生长速度和产量都会严重降低。对于大部分的作物，一般缺硼症状包括幼叶和生长点干枯、坏死和变形。

了解缺硼症状有助于诊断缺硼情况。

水果树和坚果作物	可见症状	硼充足范围 (ppm)
扁桃树	Flowers fall and nuts abort or are gummy	30 - 50
苹果	Pitting, skin discolored, cracking, and corking	28 - 50
杏树	Twigs die back and fruit fails to set	20 - 70
柑橘	Thickened ring, gum pockets near axis, discolored patches	30 - 100
葡萄	“Hen and chick” symptom, dead main shoots	25 - 50
梨树	Blossom blast, pitting, internal corking, and bark cankers	30 - 50
阿月浑子 (开心果)	Fruit set decreases, and blanks and non-split nuts increase	150 - 190
草莓	Pale chlorotic skin of fruit, cracking, and dieback	20 - 50
胡桃	Dieback from shoot tips, leaf fall	40 - 200

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庄稼	可见症状	硼充足范围 (ppm)
大田作物		
紫花苜蓿	Death of terminal bud, rosetting, yellow top, little flowering and poor pod set	30 - 80
三叶草	Poor stands, growth, and color; reduced flowering and seed set; cupped, shriveled, brittle leaves	20 - 45
豆类	Plants have a bushy appearance, leaves thicken and margins curl upward	15 - 50
马铃薯	Dark, hollow area in center of nut, called "hollow heart"	40 - 70
甜菜	Yellowing or drying leaves, cracking leaf midrib, brown discolored internal tissue, rotting crown	25 - 50
红花烟草	Leaf puckering and deformed buds	40 - 100
谷物、纤维和油料作物		
油菜籽	Leaves distorted, blank or partially filled seed heads	30 - 50
玉米	Short, bent cobs; barren ears; blank stalks; poor kernel development; elongated, watery, or transparent stripes later become white on newly formed leaves; dead growing points	5 - 25
棉麻类作物	Shedding squares and young bolls, ruptures at base of squares, dark fluid exuding from ruptures, internal discoloration at base of boll, half-opened bolls, green leaves until frost	21 - 80
花生	Interveneal chlorosis of leaves, bushy appearance	25 - 50
高粱	Narrow, gray leaves with watery, transparent stripes; seed heads are not filled	16 - 140
大豆	Yellow, crinkled leaves with downward curled tips; chlorotic between veins; no flowering; stunted roots	20 - 50
向日葵	Leaves appear wilted, abnormal head fall due to weak peduncles	50 - 150
小麦	Distorted heads and chlorosis of leaves	5 - 20
蔬菜作物缺硼		
红甜菜或甜菜头	External spotting, cracking, and canker	30 - 70
西兰花	Hollow stems, internal discoloration, brown curds	25 - 50
卷心菜	Hollow stem, watery areas, heads hollow, plants stunted	25 - 50
胡萝卜	Reddening of leaves and root splitting	25 - 50
花椰菜	Leaves curled, hollow stem, curds dwarfed, brown	30 - 60
芹菜	Stem cracked and striped brown, heart blackened	25 - 50
莴苣	Stunted growth, discoloration of leaves, brittle	25 - 50
萝卜	Pale roots, brittle stems, watery flesh, and flecked coloration	20 - 50
芜菁甘蓝	Tough, fibrous, bitter roots; soft, watery areas, often called "brown-heart" when cut	38 - 140
玉米 (sweet)	Short, bent cobs; barren ears; blank stalks; poor kernel development; elongated, watery, or transparent stripes later become white on newly formed leaves, dead growing points	5 - 25
番茄	Thickened, brittle leaves; fruit fails to set	30 - 100
芜菁	Hollow center or brown heart, watery areas	25 - 50