

fluid focus

product information

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Fluid focus No. 0010

May 11, 2007

Kelpak & Canola- Improving Root Growth and Yield

Have you planted Canola this season? Do you want to help realise its yield potential? Do you want to give your canola the best chance of survival under drought and stress conditions?



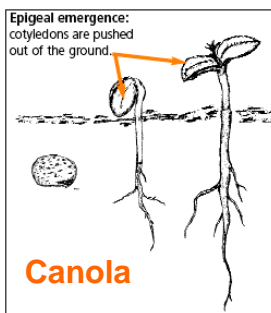
Canola plants have a tap root system which develops secondary roots that grow outward and downward from the taproot. The root system of a mature plant at ripening can be as extensive as 120cm deep and at emergence the rooting depth of a canola seedling can be 3 to 5 cm.



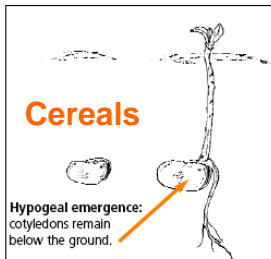
Canola seedling note the exposed growing tip between the two cotyledons

A Canola seedling, unlike cereals, has its growing point above the soil, between the two cotyledons. Cereals such as barley keep their growing point protected beneath the soil for five to six weeks. This means that canola seedlings have an exposed growing tip which makes the seedlings more susceptible to frosts, soil drifting, insects, hail and any other hazard that results in the destruction of the seedling below the cotyledons.

Because of its emergence nature (epigeal emergence), it is highly advantageous for a canola seedling to grow rapidly and establish a rosette to help withstand environmental pressures. A plant's root growth and shoot growth complement each other by adjusting their relative size to meet the basic requirements of the whole plant in response to climatic and soil conditions. This means that if root growth is stimulated with natural growth regulators (auxins), this will result in increased shoot growth which will increase the survival rate of seedlings.



Canola



Cereals

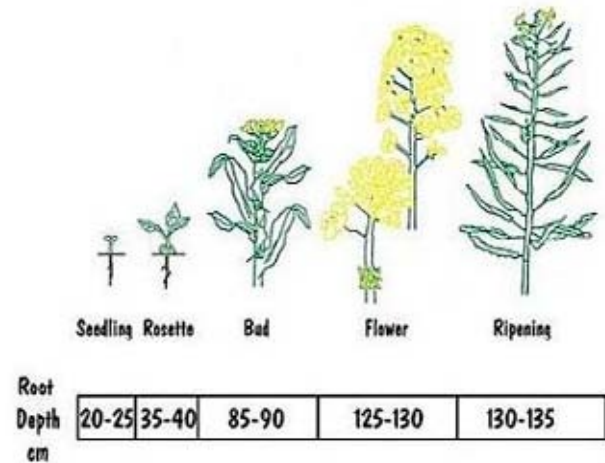
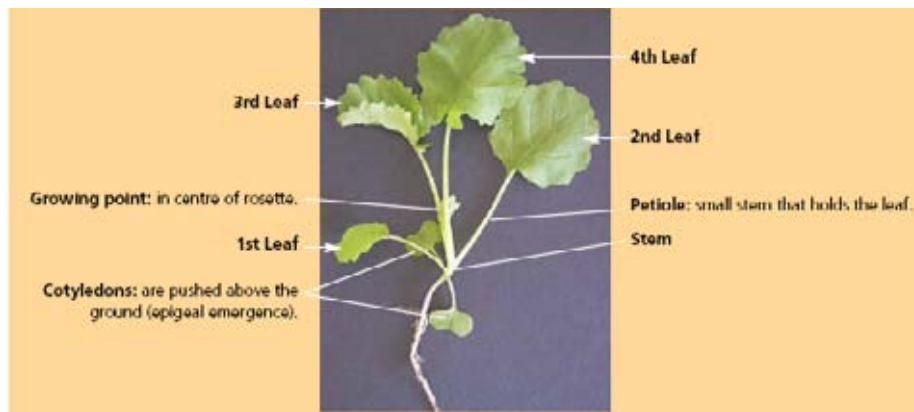
Different seedling emergence between canola and cereals

Kelpak is a liquid seaweed extract (*Ecklonia maxima*) which is uniquely produced using the 'cold cell burst method'. This gives Kelpak the highest natural growth hormone content product on the market. Kelpak contains both auxins and cytokinins, although it is auxin dominant. The auxins present in Kelpak are responsible for cell elongation and enlargement. Cytokinins help slow down crop senescence and increase photosynthesis as they are directly linked to shoot growth. As Kelpak is an auxin dominant product it promotes root growth. Roots are the factory for cytokinin production and as these are the growth hormones responsible for shoot growth, increased root growth = increased shoot growth. Applications of Kelpak at 2L/Ha at the 3-5 leaf stage can significantly increase yield of Canola.

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Canola growth stage identifications and rooting depth



Trial results of Kelpak applied on Canola at 4-5 leaf stage as a foliar

Kelpak was trialled (SKOG 1999) at 2L/ha on canola at the 4-5 leaf stage. The results showed a 24% increase in root mass and an 8% increase in yield. These results were significant and have been replicated in similar trials in different areas on canola.

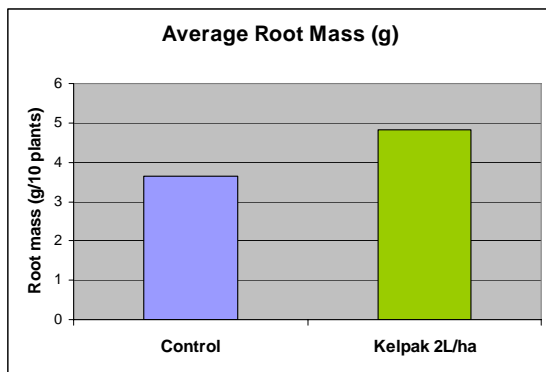


Chart 1. The average root mass (g/10 plants) of control vs. kelpak 2L/ha foliar applied on Canola at 4-5 leaf stage

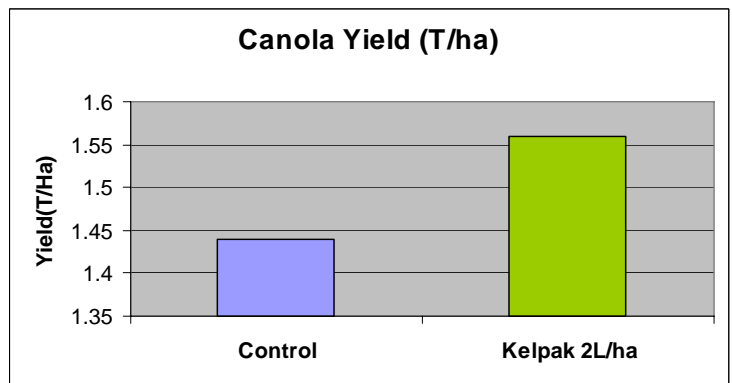


Chart 2. Total yield (T/Ha) of control vs. kelpak 2L/ha foliar applied on Canola at 4-5 leaf stage

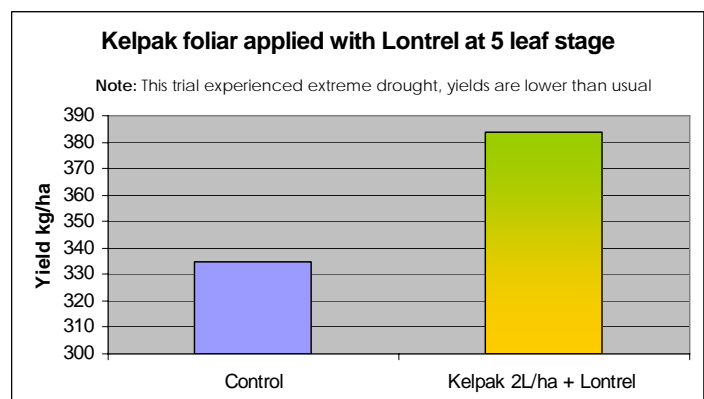
Kelpak applied on Canola as a foliar with post emergent herbicide sprays

Timing of weed control in Canola is related to both crop and weed development. Early post-emergent herbicides must be applied to canola at specific growth stages (usually 3-5 leaf stage) to avoid crop damage. Kelpak can be added with most canola postemergent herbicides and insecticides.

Kelpak Compatibility

Herbicides		Insecticides	
Lontrel	C	Fastac Duo	C
Atrazine/Gesaprim	CA	Dimethoate	C
Diuron	CA	Talstar	C
On Duty	C	Endosulphan	CA

C=Compatible; CA=Compatible with agitation



For further information about compatibilities of Kelpak please contact your agrichem representative or our agronomy team.

