agrichem
liquid logics
agronomy update
Liquid Logic No. 0007

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Zinc Application – Timing is Critical

Are you applying zinc to your broadacre crops this season? Are you planning a foliar application of zinc to your cereals? Do you want to combine your zinc application with a post emergent herbicide spray?

Zinc is short throughout all the cropping areas of Australia. Zinc deficiencies can cause yield losses of up to 40% without the crop showing any symptoms. Zinc is the most important trace element required for your crop in the very early stages of growth. It is required for cell expansion, carbohydrate and protein development as well as the production of root growth hormones, and must be applied to the crop by the 4-5 leaf growth stage to affect yield. Zinc can be applied as a seed dressing, in the soil or as a foliar spray.

Spraying Activist Zinc onto seed as it travels up the auger

Seed dressing zinc

Dressing seed with a zinc fertiliser is an effective method to get zinc to the emerging plant when needed. Root growth will not occur unless there is a critical level of zinc in the soil or close to the germinating seed. Activist Zinc or Broadacre Zinc can be applied as a seed dressing without dilution however it is recommended that, in the case of Activist Zinc, a mixture of 4-6 parts product to 0.5 to 1 part water or preferably Kelpak be used to ensure 100% seed coverage. Do not overdilute the solution as this may result in excessive wetting of the seed which can slow drying. Correct application will result in minimal to no dusting of the seed during further operations.

Once dried Activist Zinc coated seed will produce minimal dust in further operations

Foliar applied Zinc

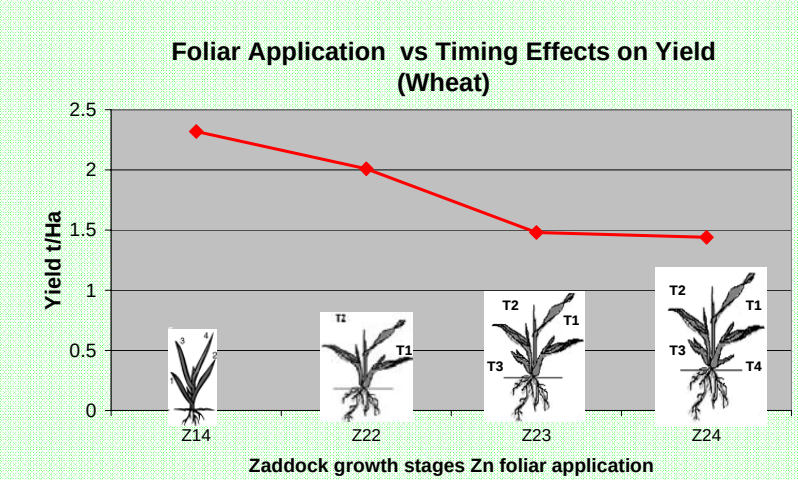
Research has shown that the combination of zinc seed dressing followed by a foliar application of zinc will result in 40% increase in yield where zinc availability is limited. Because the primordial cells of the inflorescence head are set by the 4-5 leaf stage of the crop, zinc needs to applied by this stage in order for a yield response to occur. Application at a later growth stage will result in greening of the crop, but not yield enhancement. Where the crop shows signs of deficiency after the 6 leaf stage, application of zinc will prevent further yield loss.

Foliar applying zinc at 4-5 leaf stage

2–4 Chetwynd Street, Loganholme Qld 4129, Australia
phone +61 7 3801 9000 • free call 1800 654 758 • www.agrichem.com.au

Timing of Application

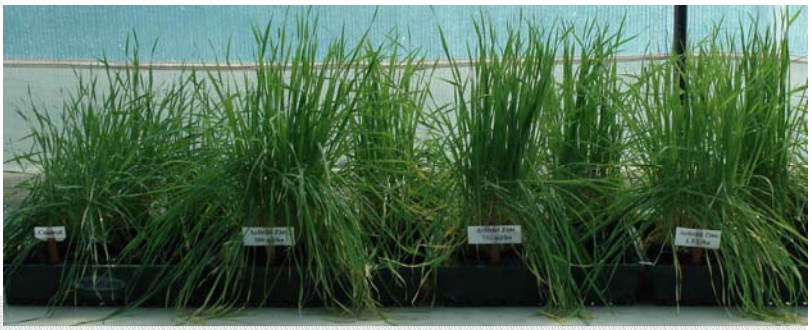
Research has shown that the maximum yield effect on wheat occurs when zinc applications are applied in the early growth stages. This is seen in Trial 1. where grain yield was 2.1 t/ha when sprayed at Z14 vs 1.4t/ha when sprayed at Z24. That shows that a 30% decrease in yield occurred by delaying application of Zn until early tillering.



Trial 1.(WA, 2004) Zinc foliar application at 112gZn/ha sprayed at Z14 – Z24

Rate of Application

The rate of zinc application should be determined by zinc availability of the soil and the nutritional requirement of the crop. If a zinc deficiency is identified in soil tests, use the highest end of the suggested zinc rates on the label.



Trial 2.(2007) Activist Zinc foliar applied to wheat at Z14 , at differing rates

An Activist Zinc rates trial showed that Activist zinc not only increased the zinc content in wheat, but improved the structural characteristics of the wheat. This can be seen in the opposite photo.

Agrichem zinc suspension products and post emergent herbicide tank mixes

Activist Zinc, Broadacre Zinc and King Zinc 100 are compatible with a number of post emergent herbicides.

Herbicide Tank Mixing instructions

1. Fill the tank ¼ to ½ full with water and begin agitation
2. Add zinc suspension
3. Add compatible herbicide in the order of P, DF, WDG, FFL, ME, EC, S, SP
4. Add crop oils or surfactants

Note: When adding products to the tank, add each one slowly and thoroughly mix each, beginning with those hardest to mix. To make sure you have a uniform spray mixture at all times, keep the mixture agitated during the entire application and until the tank is empty. If possible, do not allow it to stand for any period of time without agitation, and do not allow to stand overnight.

	Achieve	Aramo	Buctril MA	Hoegrass	Lontrel	MCPA 500	MCPA LVE
Activist Zinc	C	C	C	C	C	C	C
Broadacre Zinc	CA	CA	C	CA	C	CA	CA
King Zinc 100	CA	CA	C	C	C	CA	CA

C= Compatible CA= Compatible with agitation

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