

Welcome to **Lettuce Leaf**, a newsletter designed to help provide information to the lettuce industry as part of the IPM project VG1028. Funded by Aus Veg levy and Horticulture Australia distributed from the National Vegetable Industry Centre at Yanco.

2nd Australian lettuce conference

Over 170 delegates attended an informative lettuce conference at Gatton from the 6th to the 8th of May. The first day saw growers presenting regional reports from QLD, NSW, VIC/TAS, SA & WA. Thankyou to those growers involved. The rest of the day saw presentations on marketing (and the changing consumer trends), lettuce breeding, post harvest issues and summaries of national research projects. The research projects covered a variety of topics from pest and disease issues, lettuce exporting, lettuce tipburn and genetic transformation of lettuce.

At the end of the first day delegates enjoyed both food and entertainment at the conference dinner. The after dinner speaker, Tony Biggs (editor of Good Fruit and Vegetables), gave an entertaining and humours speech including his own rendition of "Lettuce Spray". (A copy of this poem can be found on page 4).

The second day of the conference included a field trip to Withcott Seedlings and local growers properties, inspection of a lettuce variety trial at Gatton Research Station and a spray application demonstration. The final half-day saw 44 delegates take part in a lettuce industry research and development priority setting workshop facilitated by John Tyas of Horticulture Australia. The major issues raised by growers were related to marketing, standardised Quality Assurance and packaging and production problems such pest, disease & nutrition research. A report of the workshop's outcomes is available from:

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After the conference many growers participated in a pest, beneficial and disease identification workshop. Most delegates also took the opportunity to see Expo 17 whilst visiting Gatton.

IPM Lettuce Guide

Hot off the press is an essential book for lettuce growers and associated industry. "*Integrated Pest Management in Lettuce: Information Guide*", produced by researchers at NSW Agriculture and the Queensland Department of Primary Industries. Copies cost AUS\$50 (GST inclusive) plus \$5 P&H. The 160-page guide contains lettuce monitoring protocols and comprehensive chapters on insect pest management, diseases and their control, and weed management. These chapters are copiously illustrated enabling readers to quickly identify the many pests and their damage as well as the 'beneficials' common to lettuce crops.

Each lettuce growing enterprise is entitled to **one free copy**. If you have not yet received your copy please contact your local Industry development officer with AusVeg

To purchase a copy, contact -:

NSW Agricultural Bookshop
24Hour Answering service 1 800 028 374
fax: 1 800 642 065
enquiries (02) 6391 3458
or via web site follow links from
www.agric.nsw.gov.au

Are you wasting nitrate on summer lettuce?

Craig Murdoch – Knoxfield

It is well known that plants will accumulate nitrate beyond their immediate need for growth. This ability is called “Luxury uptake” and is a survival strategy to exploit available nitrate before it is transformed through the nitrogen cycle. In cold ground, nitrogen cycles are much slower and growers often apply extra nitrogen to push growth and finish the crop.

Nitrogen cycles faster in warmer soil during summer and lettuce can be successfully grown without additional fertiliser on some soil types. In clay-loam soils, sufficient nutrients were recycled from decaying brassica crop residues to maintain normal lettuce growth rates, at least for the first planting.

Lettuce growers should consider exploiting “carryover nutrients” and cut back on their nitrate costs on heavier soils in early summer. In sandy soils, lettuce crops grown without fertiliser were significantly poorer. Probably due to leaching of nitrate and potassium below the active crop root zone.

We did not observe “luxury uptake” of nutrients other than nitrate. The concentration of calcium and potassium in lettuce leaf sap appeared to be closely controlled in the plant even when these nutrients were oversupplied to the soil.

We also noted that tipburn tolerant lettuce cultivars maintained higher concentrations of major nutrients in their leaf sap than did tipburn sensitive varieties. Under high growth conditions, excess nitrate can promote lush growth while the plant is decreasing the concentrations of calcium and potassium. This nutrient imbalance can aggravate tipburn, early bolting and storage problems in summer lettuce crops.

Be cautious in your use of nitrogen fertilisers on summer lettuce crops.

In Summary

- Lettuce can accumulate nitrate in excess of their immediate needs.
- Concentrations of other nutrients are closely controlled in the lettuce plant.
- Out-of-balance nutrients can cause growth and storage problems

- In heavier soil, there is usually sufficient carry-over nutrients after a brassica crop to grow the first lettuce planting without extra fertiliser.

For more information contact:

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(03) 5152 0600



Registration status of Endosulfan

There appears to be some confusion within the industry about the registration status of Endosulfan products in lettuce. Endosulfan is still currently registered but is under review. The two Endosulfan products currently registered for use in lettuce are Nufarm Endosulfan 350EC® and Thionex 350EC®.

Residue data gathered from trials in lettuce is currently being reviewed by the NRA. The outcomes of this Endosulfan review should be known in a couple of months. The registration status of all Agchem products can be checked on the *Pubcris – Registered Products Database*, which is updated nightly on the NRA website. <http://www.nra.gov.au>

Regional reviews

New South Wales

Hay

Andrew Creek, NSW Agriculture

Heliothis pressure was high at the start of the season, resulting in some heavy losses due to grub damage in the first few planting's. Losses varied across the district, with the worst of the blocks being ploughed in. Higher than expected bolting was seen in some of the earlier planting's.

The arrival of winter has seen a general reduction in insect activity, with only a few aphids and leaf hoppers about. Most lettuce blocks are looking fairly good at the moment. Recently there has been some light frost damage and a few isolated blocks with severe losses due to tomato spotted wilt virus.

Sydney Basin

Leigh James, NSW Agriculture

Recent conditions in the Sydney region have been almost ideal for crisphead field grown lettuce production. While there was a lot of Heliothis and thrips pressure early in the year, the recent cooler and mostly dry conditions have not favoured pest pressure. There has been little Heliothis, thrips and aphid activity. As far as diseases are concerned, downy mildew pressure has not been as severe as possible despite many foggy mornings. There has been a little bit of sclerotinia but not as bad in most years.

The main varieties in at the moment are Tasman and Magic. There is still a bit of Assassin left in the region. In summary things are pretty good at the moment.

Central West

Greg Kocanda, Ace Ohlsson

Central West growers had it a little easier this autumn lettuce season. Mild temperatures and very little rain meant that growers were in control of their crops in a near perfect growing environment. Growers thought a few extra dollars were going to be banked because of less inputs- no calcium nitrate for tip burn and only half the Heliothis chemical required. However, depressed prices put an end to that thought.

Downy Mildew pressure mid way through till the end of the season was the only disease encountered. Growers are now gearing up for spring plantings which will begin in mid July.

Victoria

East Gippsland

Rob Dimsey, DNRE Victoria

Generally the summer was very cool with slightly longer growing periods. A Christmas eve hailstorm decimated crops with 3-4 weeks lost production in the area. Then the late summer autumn was very cool and wet with significant disease issues such as mildew and sclerotinia. Continued wet conditions meant that effective spray controls for disease control could not be applied and this made the season much worse. There was also a lot of internal browning and many plants were subject to rots in the field. Mid autumn provided some excellent growing conditions but these lasted only a few weeks with the weather turning suddenly colder.

Insect pests were not a significant problem this year and the peak incidence of Heliothis was around 2 weeks later than normal and not as severe. Overall not a good season for lettuce growers in East Gippsland.

The low pest pressure also affected the trials carried out on the new project evaluating a range of new pesticides for Heliothis control. With low pest pressure it was difficult to get any significant results on Heliothis control. However differences were identified with aphids and some beneficials and results are being collated.

Werribee

Dale O'Connell, E.E.Muir & Sons

The lettuce in Werribee grew well this season with few problems. The weather over summer was mild and as such grub pressure was low. There was some tip burn evident in the crop. There was an over supply this season leading to depressed prices. Seed companies are trialing many new varieties for the new season.

Queensland

John Duff, QDPI

With the mild temperatures insect activity has been generally low. Aphids have been the most common insects in the lettuce crops. Heliothis pressure has been low with only an odd out break across the valley. Due to the recent wet weather there has been variable disease pressure from sclerotinia rot. Generally it is a quiet time of the year, but most growers still need to spray every 7-10 days just to keep them clean.

Western Australia

Dennis Phillips, Agriculture WA

The first 6 months of 2002 have been a time of turmoil in the lettuce industry in WA. The most significant event was the implementation of a total ban on the use of raw or untreated poultry manure for irrigated crop production in most Shires on the Swan Coastal Plain. The reason for the ban was a long standing problem with stable fly breeding associated with deep litter poultry manure use for growing vegetable and other irrigated crops. Stable fly created a conflict between the horticulture industry and householders, horse owners and other livestock producers which could only be resolved by a ban in spring, summer and autumn.

Poultry manure had for many years been a cornerstone of lettuce fertiliser programs and many growers experienced great difficulty adjusting when it ceased to be available. For many it meant higher fertiliser costs as they shifted to high rates of bag fertiliser and this unhappily was combined with a period of oversupply and low prices throughout the summer.

The summer was unusually cool as it was throughout southern Australia and this resulted in almost no serious crop losses due to heat waves. Losses due to tomato spotted wilt virus were at unprecedented levels however, and Western Flower Thrips became much more prevalent than ever before. It is not known yet whether this was a seasonal event or whether it will become a permanent feature of the landscape from now on.

Recently, the drought of low prices has broken with prices rising to levels not seen for a number of

years. Heavy early season rains have been one contributing factor, combined with significant losses due to sclerotinia. Lettuce big vein has also been more serious than normal for this early in the winter due to an early cold snap that lowered soil temperatures.

South Australia

Laurie DeRuvo, Grower

South Australia has had a very mild autumn with cool nights and warm days. This has resulted in growers achieving very good quality and outstanding yields. There have been little problems with pest and disease and now all that is needed is some decent returns.

Lettuce Spray, A pre - IPM prayer

When heliothis is making hay

Lettuce spray

Or other pests, be what they may

Lettuce spray

While we drink or talk they're feeding

Get the chem guide out for reading

Lettuce spray

Buy up big with sprays galore

Lettuce spray

Hit them once and than some more

Lettuce spray

Make up mixtures, wage the war

Spray each week, we must be sure

That all the pests will hit the floor

Lettuce spray

Grubs and aphids, bugs and mites

Lettuce spray

And any other thing that bites

Lettuce spray

Be they plump or thin or small

Chemicals will kill them all

That's the way to make them fall

Lettuce spray

Adapted from a poem published in "New Zealand Farmer"
June 1916

Tony Biggs,

2nd Australian Lettuce Industry Conference

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www.agric.nsw.gov.au/reader/veg-lettuce or www.nre.vic.gov.au/agvic/ihd/projects/lettuce.htm