

# LEAD Action NEWS

## Citizen Science Project: Backyard Chickens and Lead in Oz

### Is Your Commercial Chickenfeed Lead-contaminated?

By Grandma Lead, aka Elizabeth O'Brien, BSc, Grad Dip Health Edn; Lead Scientist and Lead Advisor, The LEAD Group Inc, Australia, June 2024

## BACKYARD CHICKENS



## AND LEAD IN OZ



2022

Volcano Art Prize (VAP) Entry. Photographer: Max Taylor, age 11. Title: **Max's Chickens.**

Lead-safety Message: Lead in the dirt contaminates our eggs.

<https://volcanoartprize.com/portfolio-item/maxs-chickens/>

Enter your chicken photos and very short films in VAP at

<https://volcanoartprize.com/submitentry/>

Prevention is so much better than cure so in September 2022 The LEAD Group embarked on a Backyard Chickens and Lead Citizen Science Project and we thank you in advance if you decide to buy a LEAD Group Kit at <https://leadsafeworld.com/leadkits> specifically to test an egg (this costs an extra \$30 in addition to the price of the Kit) and to test commercial chicken feeds you feed your backyard chickens that are different or the same as the ones we have had analysed for lead (see results in the table below).

The Stock Feed Manufacturers' Council of Australia has asked us to provide the batch numbers and lead results for any stockfeeds tested for lead in our Backyard Chickens and Lead Citizen Science Project. We can also report to your state primary industry department if your chicken feed lead results don't comply with the Maximum Recommended Limit for lead, so please let us know if you do feed your chickens with any of the feeds that have been found already to not comply.

Please check out the key Macquarie Uni research in inner Sydney by Professor Mark Taylor (from The LEAD Group's Technical Advisory Board) and his team that inspired me to start the Project:

[Lead poisoning of backyard chickens: Implications for urban gardening and food production](#) by Tahereh [Sara] Yazdanparast, Vladimir Strezov, Peter Wieland, Yi-Jen Lai, Dorrit E. Jacob & Mark

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Patrick Taylor, Environmental Pollution 310 (2022) 119798 / Volume 310, 1 October 2022, online 18 July 2022.

The Sydney backyard chickens study (Yazdanparast et al 2022) basically says that while soil lead is the best predictor of egg lead, incredibly, 69% of the commercial chicken feeds XRF-screened for lead and 43% of the chicken water samples analysed for lead also had too much lead in them! So to prevent lead poisoning of backyard chickens and their eggs and anyone who eats the eggs it is essential that you ensure all the soil they have access to is extremely low in lead, that you choose commercial chicken feeds with non-detectable or at least the lowest lead levels possible (see the 10 we had tested at the National Measurement Institute (NMI) Lab in the above attachment and consider having yours tested via a LEAD Group Kit so we can increase the number of Chicken Feed Lead results we can send to our clients), and that you ensure low-lead drinking water for the chickens. Test your chicken water for lead with a LEAD Group Kit if the tap is less than three years old or if you water the chickens with a PVC hose or if the water source is rainwater or borewater.



2016 VAP Entry.

Photographer: Elizabeth O'Brien.

Title: Test your stock feed at a lab with a LEAD Group Kit,

Lead-safety Message: Does your stock feed meet the Stock Food Act lead, cadmium and mercury limits? A LEAD Group Kit found a brand of chicken feed (not shown here) had 5 times the lead limit but there was no lead detected in the Organic chook food / layer mash made by Country Heritage Feeds. <https://volcanoartprize.com/portfolio-item/test-your-stock-feed-at-a-lab-with-a-lead-group-kit/>

If your poultry's soil lead level is above 30 mg/kg (milligrams of lead per kilogram of soil), The LEAD Group recommends that you ask the doctor to test the blood lead level of anyone who has eaten or may in future be regularly eating the eggs, and that you have an egg (per laying chicken) tested for lead. Egg analysis for lead (and other heavy metals and a scan for pesticides) can be done using a LEAD Group kit, available at <https://www.leadsworld.com/shop/> - by ordering a LEAD Group Kit and Egg Preparation for Testing and just packaging up the whole raw egg - so it doesn't break in the mail, and posting it with your other LEAD Group kit sample containers, to our lab.

The lead analysis is included in the price of the kit, and you pay extra per sample:

- \$30 for digestion (preparation for analysis) of each egg
- \$15 for each other heavy metal you want analysed, and

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- \$60 if you want the pesticides scan.

Please note that if you want both metals and pesticides tested in eggs, you need to send one egg for the metal analysis/es and another egg for the pesticides scan (as it will be sent out from our lab to be analysed/scanned at two other labs).

Currently, the cost of lead analysis, Other Heavy Metal analysis, Asbestos Detection and Egg Preparation for Testing can be paid by Paypal or Credit Card when you order a kit at <https://www.lead safeworld.com/shop/> so if you want to pay for more tests eg scan of pesticides in soil, commercial chicken feed or eggs, you should first phone to check the price then pay by Direct Debit and email us a copy of your online banking receipt for your transfer, along with your name, phone number/s and postal address so we can send you the kit by email.

Our bank account details for these payments can be found at <https://lead safeworld.com/direct-bank-transfer/> and are:

Account Name: The LEAD Group LEAD  
BSB: 812170  
Account Number: 101078452  
Reference: [write what you're paying for]

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Please check out the following lead results in Commercial Chickenfeeds available in Australia obtained so far in this Citizen Science Project

Table: Chicken Feed Lead Results from National Measurement Institute (NMI) for The LEAD Group's Citizen Science Project: Backyard Chickens and Lead in Oz – Is Your Commercial Chickenfeed Lead-contaminated?

**Chicken Feed Lead Results from National Measurement Institute (NMI) for The LEAD Group's Citizen Science Project: Backyard Chickens and Lead in Oz – Is Your Commercial Chickenfeed Lead-contaminated?**

**Result Highlight colour key:**  
 <0.01 mg/kg – Non-detectable Lead (i.e. less than 0.01 mg/kg or milligramme of lead per kilogramme of chicken feed (the best result possible from NMI) )  
 >0.01 – <0.1 mg/kg – Equal to or greater than 0.01 mg/kg (one twentieth of 0.2 mg/kg) but less than 0.1 mg/kg – half the NSW BioSecurity Act (2015) maximum limit for lead of 0.2 mg/kg in stock foods  
 >0.1 – <0.2 mg/kg – Equal to or greater than 0.1 mg/kg (half of 0.2 mg/kg) but less than the NSW BioSecurity Act (2015) maximum limit for lead of 0.2 mg/kg in stock foods  
 >0.2 mg/kg – Equal to or greater than the NSW BioSecurity Act (2015) maximum limit for lead of 0.2 mg/kg in stock foods

SAMPLE NO. >	SAMPLING DATE & SAMPLE TYPE >	PHOTO OF SAMPLE >	DESCRIPTION OF SAMPLE >	LEAD RESULT >
202209001A >	1/9/2022 > Chicken Feeds >		Home-mix (In a galvanized but new/clean rubbish tin) of sunflower seeds and wheat and milo grains from Kensington Produce, from Anne >	<0.01 mg/kg >
202209001B >	1/9/2022 > Chicken Feed >		Villa Stock Feeds Free-Range-Layer-Pellet, purchased at petO, from Linden >	0.36 mg/kg >
202209001C >	1/9/2022 > Chicken Feeds >		Beco Top Essential Feeds Top-Layer-Complete-and-Balanced Premium Mash, purchased at petO, from Linden >	0.028 mg/kg >
202209001D >	1/9/2022 > Chicken Feed >		Peckish Produce Performance Layer Mix purchased from Pets Domain by Elizabeth. The empty bag had already been recycled by the time SFMCA asked The LEAD Group for the Batch Number. >	0.16 mg/kg >
202209001E >	1/9/2022 > Chicken Feeds >		Peckish Produce Layer Pellets purchased from Pets Domain by Elizabeth. The empty bag had already been recycled by the time SFMCA asked The LEAD Group for the Batch Number. >	0.4 mg/kg >

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## Chicken Feed Lead Results from National Measurement Institute (NMI) for The LEAD Group's Citizen Science Project: Backyard Chickens and Lead in Oz—Is Your Commercial Chickenfeed Lead-contaminated?

202209001F	1/9/2022 Chicken Feed		Vella Stock Feeds Scratch Mix (Grains) from Emily	0.19 mg/kg
202209001G	1/9/2022 Chicken Feed		Vella Stock Feeds Scratch Mix (Pellets) from Emily	1.4 mg/kg
202209001H	1/9/2022 Chicken Feed		Avigrain Scratch Mix (Grains, Seeds and Pellets) from Catherine. The empty bag had already been recycled by the time SFMCA asked The LEAD Group for the Batch Number.	0.56 mg/kg
202209001J	1/9/2022 Chicken Feed		Auntie Kate's Scratch Mix (Wheat, Milo, Cracked Corn and Sunflower Seeds), [made by Avigrain?] from Jenny	<0.01 mg/kg
202209001K	1/9/2022 Chicken Feed		No brand no product name no batch number Pellets sold in clear plastic bag, purchased from Kempsey Produce by Jenny	0.26 mg/kg

Result highlight colour key:

<0.01 mg/kg - Non-detectable Lead is less than 0.01 mg/kg or milligrams of lead per kilogram of chicken feed (the best result possible from NMI lab)  
 =>0.01 - <0.1 mg/kg - Equal to or greater than 0.01 mg/kg (one twentieth of 0.2 mg/kg) but less than 0.1 mg/kg - half the NSW BioSecurity Act (2015) maximum limit for lead of 0.2 mg/kg in stock foods  
 =>0.1 - <0.2 mg/kg - Equal to or greater than 0.1 mg/kg (half of 0.2 mg/kg) but less than the NSW BioSecurity Act (2015) maximum limit for lead of 0.2 mg/kg in stock foods  
 =>0.2 mg/kg - Equal to or greater than the NSW BioSecurity Act (2015) maximum limit for lead of 0.2 mg/kg in stock food

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