

Edited by Amy Quinn



Welcome to the November edition of our monthly newsletter. The drop in pig price and rise in feed prices over the past number of months has resulted in a margin over feed of 30 cent per kg dead weight for the month of October, a hugely challenging time for producers.

In this issue of the monthly newsletter, with the current challenging circumstances in mind, Ciarán Carroll discusses some key areas of your business to focus on and encourages farmers to take the opportunity now to review current business practices and opportunities, and plan for the future. Edgar Garcia Manzanilla revisits the topic of removal of Zinc Oxide from pig diets, he discusses some of the findings of the final trial in the ZincO project and offers some practical advice for producers in advance of the June 2022 ban on the therapeutic use of Zinc Oxide.

The PDD recently ran three certified pig welfare workshops on the 16<sup>th</sup> (Cork), 17<sup>th</sup> (Portlaoise) and 18<sup>th</sup> (Cavan) of November. Due to the substantial interest in these courses we will be running

another workshop in the New Year. If you are interested in registering or registering a staff member please contact your pig advisor or email [amy.quinn@teagasc.ie](mailto:amy.quinn@teagasc.ie).

In addition to the welfare workshops the PDD also hosted a TailBiteAdvice workshop and a Salmonella Webinar with AHI this month. We are currently working on our 2022 schedule, with many exciting and informative events planned. Due to current COVID guidance we have postponed the return to in person discussion groups but we endeavour to run some online events in the coming months until their resumption is feasible and safe.

#### In this issue:

- Review now and plan for the future
- Removing therapeutic Zinc Oxide from pig diets

## Review now and plan for the future

Ciarán Carroll

2021 has been a difficult year for pig producers in Ireland and abroad. Pig prices have dropped and feed prices have risen, resulting in a margin over feed of 30 cent per kg dead weight for October, well below what's required to cover costs and make a living from pig production. As we approach the end of a difficult year in the hope of a better 2022, it's important to focus on reducing costs, but it's also a timely opportunity to re-evaluate your business and put in place a plan for the future.

### Records, Data Analysis & Use

First off, what are your current production costs? Are you keeping accurate records via the Teagasc e-Profit Monitor system? If not, why not? If you are keeping them, how well are you analysing them and using them to improve your business? Is your operation achieving the highest levels of production efficiency? Are you producing high quality pigs at the lowest cost? Which parts of your operation are competitive and which are not? Do you discuss the analysis in detail with your Advisor and farm staff to identify where change is needed? Have you benchmarked your farm performance versus the national average and top 10% & 25% of producers? This allows you to set realistic targets for your farm. By sharing and analysing the details with staff it enables them to see the bigger picture and buy-in to the changes required to achieve those targets.

As well as reviewing production performance and costs it's a good time to review the current status of the business, your overall management and the

factors influencing it. Such areas include financial, environment, herd health and welfare, farm management and socio-economic issues.

### Financial

What is your current financial position? Do you have adequate borrowing capacity, cash reserves, or other sources of income to survive periods of low pig and high feed prices? Can you afford to make any new investments? Have you discussed your financial position with your bank? Did you get your Teagasc Advisor to do a Cashflow Budget Analysis for your business? As the year end approaches these are things to consider as part of your 2022 Business Plan.

What repairs and maintenance are required at present? Despite poor margins repairs and maintenance are always necessary. This may mean prioritising some investments over others. Are there other investments required to future proof your farm? Without committing to anything, create a short, medium and long-term list of investments needed.

Get your performance and production costs up-to-date, get your Teagasc Advisor to prepare a Business Plan with a cashflow projection and be ready to discuss these with your bank.

### Environment

*Manure Management:* Is your operation in compliance with environmental management regulations? How well are you managing your

slurry and slurry spreading costs? Fertiliser prices continue to rise. The knock-on effect of that is that the value of pig slurry is rising, now worth €10.50 per m<sup>3</sup> or €48 per 1,000 gallons (based on chemical N, P & K values). Who is paying the cost of slurry spreading? Is it time to review this? Are you in a position to charge for pig slurry or at least share the spreading costs with your customer farms?

*Energy:* Can you reduce your energy use and costs? Upgrading insulation and ventilation systems may help. There are plenty of renewable energy options available to farmers nowadays, many of which are grant-aided. Consider an Energy Use Audit to identify the best option? Refer to the Teagasc Pig Development Department Virtual Pig Week 2020 focus on energy use <https://www.youtube.com/watch?v=QpXMn1snNKw>

*Water:* Reducing water usage reduces manure volume and slurry spreading costs. A reduction in finisher water to meal ratio of 0.25 is equivalent to 1m<sup>3</sup> (220 gallons) less slurry per sow. Can you reduce your water:meal ratio? Consider investing in a larger feed pump or a satellite tank. Investing in water meters to monitor water usage and identify areas requiring attention should be considered. Upgrade water systems and fix or replace broken drinkers. Invest in upgraded water chutes to divert clean water away from slurry tanks (1m<sup>2</sup> roof area can account for up to 1m<sup>3</sup> rainfall annually). Consider investing in a rainwater harvesting system to use for washing.

Remember to investigate the use of DAFM TAMS or SEAI grants to reduce some of these and other investment costs. As mentioned, it's important to prioritise your investments, some cost more than

others. While these investments cost money, the return on investment can be significant.

### Health & Welfare

What is the Health status of your herd? What can you do to improve it? How prepared is your farm for the forthcoming ban on the use of Zinc Oxide in pig diets and the reduction in the use of antibiotics? Speak to your vet about updating your Herd Health and Welfare Plan. Review your vaccination and medication programmes with your vet where necessary. Make sure to avail of the AHI, DAFM TASAH-funded, programmes to have your farm scored for Biosecurity and Risk Assessed for tail biting. The recommendations from both of these programmes will help you to future-proof your farm.

### Personal & Staff Management

What are your personal plans for the future? Are you near retirement? Are there family members interested in succeeding you? Have they received formal training in pig production and farm management? If not, speak to your Teagasc Advisor about their education options. When is the next available Teagasc pig production course? Teagasc are currently developing a new Farm Apprenticeship programme which may be worth availing of. Attracting and retaining staff on pig farms is difficult. It's easier to put effort into retaining than recruiting staff. Improvements to working conditions can help. What can you do?

*Lean Principles:* Eliminate things that might be wasting staff time and improve efficiencies. Ensure equipment is organised and in top working order; upgrade pig handling and loading facilities; mechanise feed handling; make paperwork/data recording as efficient as possible. For further

information check out the Teagasc PDD Let's Talk Pigs Webinar on this link: <https://www.teagasc.ie/publications/2020/lets-talk-pigs-webinar---becoming-lean---a-guide-for-pig-farmers.php>

*Staff Facilities:* Make the farm comfortable for staff. Provide clean & organised locker/shower rooms and canteen facilities; good quality, safe, clean and proper sized clothing; improve ventilation systems to reduce ammonia and dust levels in houses; upgrade lighting in all buildings; rewire old buildings to improve safety standards and reduce fire risk. DAFM TAMS funding is

available to subsidise some of these investments. *Invest in people:* your staff are your greatest asset, invest in them. Send them to training courses, workshops, conferences, etc. Encourage them to listen to the Teagasc Pig Edge <https://www.teagasc.ie/animals/pigs/the-pig-edge-podcast/> and other podcasts to upskill themselves. Create personal development plans and have feedback meetings. Increasing their involvement in decision making will improve their job satisfaction. Finally, invest in yourself. Take a break or a holiday (when COVID allows). Downtime is critical to recharge the batteries.

## Removing therapeutic Zinc Oxide from pig diets, the focus for 2022

**Edgar Garcia Manzanilla, Juan Manuel Ortiz & Daniel Ekhlás**

In the August newsletter and the most recent "The Pig Edge" podcast episode, we discussed the new EU veterinary medicine regulations being implemented in January 2022, reducing the availability of antibiotics in farms and additionally how in-feed zinc oxide (ZnO) will not be available at therapeutic dosage from June 2022. Within ZincO project we have been testing the effects of removing ZnO and antibiotics from feed in pig farms and some of the possible solutions. Here are some of the conclusions that can help farmers to prepare for what is coming.

In the final trial, we have followed groups of pigs in 20 different batches in 5 different farms using the following treatments for 2 weeks post weaning:

- A control diet with no ZnO or antibiotics
- The same diet with ZnO at therapeutic levels (3000ppm)

- The same diet with the antibiotic that the farm was using.

The number of pigs used in each batch was between 100 and 400 pigs per treatment. The three outcomes that we have observed have been:

- No differences between the treatments when removing the ZnO or the antibiotics
- Reductions in performance in the pigs fed without ZnO and/or antibiotics
- Disease outbreaks

The most common result was the reduction in productive performance when removing the ZnO from the feed. In some cases, there were no differences between treatments, and only one outbreak was observed. The outbreak actually happened after we had finished the trials in the

farm and the farmer was testing the zinc free diets regularly.

In general, pigs without ZnO in the diet showed loose feces earlier than those with ZnO in the diet and intake was also reduced for a couple of days. The timing of this looser feces changes from farm to farm but it normally happens 4-7 days post weaning. It is quite difficult to keep calm once you start seeing the more liquid feces in the pen but it is key to learn how this issue develops in your own farm, learn about signs that tell you that the pigs are at a point of no return and how to use an antibiotic effectively as well as the rest of tools available in such situation.

To monitor diarrhea, we recommend checking the same area of the pen and in fact take pictures of that area every day. This helps you to be more objective in your assessment. It is easy to think that the diarrhea is worse than it actually is if you don't keep pictures. Use the wall instead of the floor because diarrhea will disappear through the slats and you can see diarrhea problems better on the wall. Figure 1 below shows the evolution of the fecal consistency in one of the farms in the trial for pigs fed diets with or without ZnO on days 3, 5 and 7 post weaning. We can see that at day 3 the pigs with no ZnO in the diet have clearly looser feces than those fed diets with ZnO. On day 5 we can still see this difference and by day 7 both groups look similar. Notice also the difference in color.

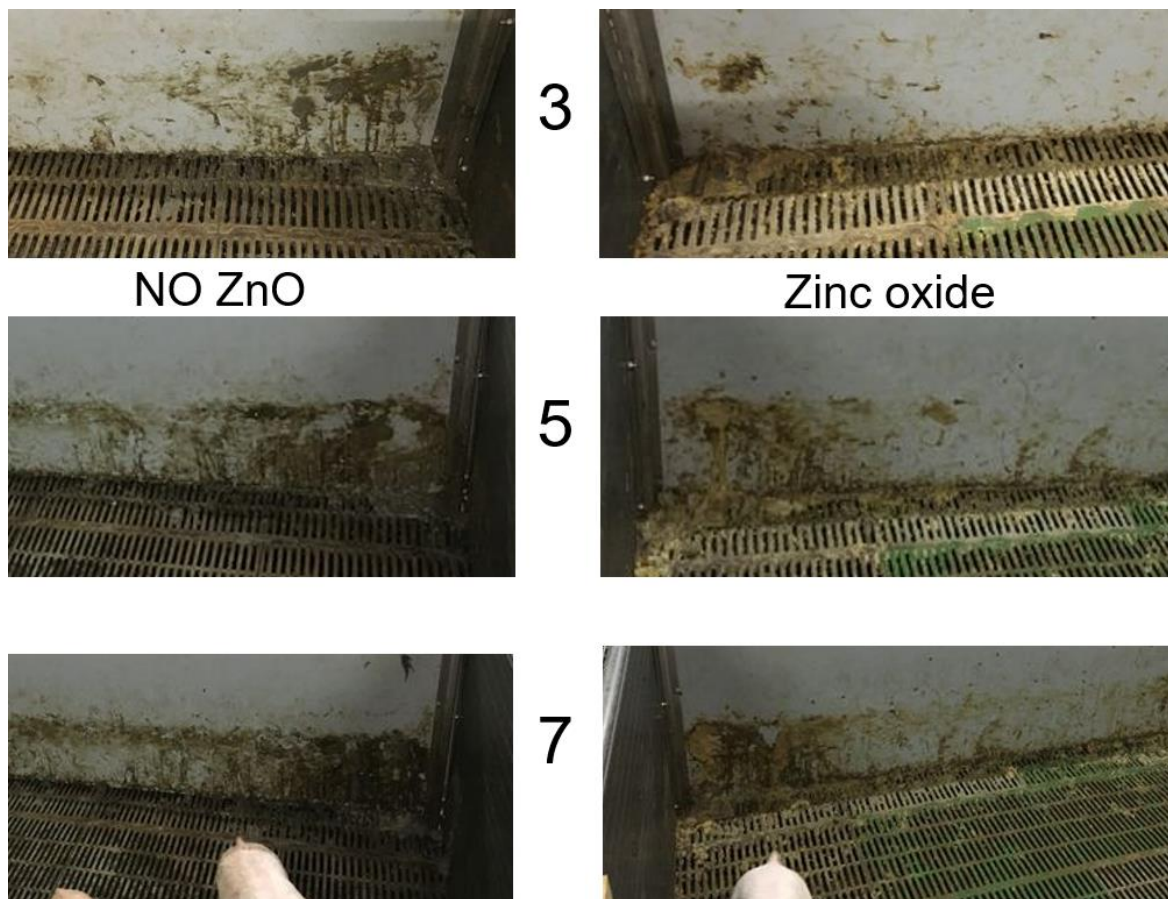


Figure 1: The evolution of the fecal consistency in one of the farms in the trial for pigs fed diets with or without ZnO on days 3, 5 and 7 post weaning.

In relation to the effects on productive performance, Table 1 shows the summary of the results for the 20 groups of pigs studied. Pigs showed reductions in daily intake of 30g per day and reductions in growth of around 17g per day on average. Some increase in mortality may happen on some farms although it can be controlled by injecting sick pigs.

Table 1. Productive performance of 20 pig batches fed diets with or without ZnO at 3000ppm during the first 2 weeks post-weaning.

	ADG, g/d	Mortality, %	Avg Daily Intake, g/d	FCR
Diet with ZnO	259	1.0	334	1.3
Diet with no ZnO	242	1.2	305	1.3
Difference	17	0.2	29	0.0

If we look at figure 2 below, we can see the difference in body weight between those pigs fed ZnO at 3000ppm and those fed with no ZnO two weeks post-weaning. We can see that in most cases the pigs fed with ZnO had higher final

weights than those fed with no ZnO. However, in some cases the diet with no ZnO performed a bit better. This is perfectly normal as it is part of the variability that you would expect in these type of results. Do not trust what you see in one trial on your farm, try to repeat for comparison for at least 4-5 batches.

The situations that you want to avoid are when you end up with a group of pigs that show severe delays in growth or when you end up with high mortalities. In the figure 3, we can see a group of pigs that probably needed an intervention a bit earlier. The dirtiness of the pigs is quite a good indicator that something is starting to go wrong in this group of pigs. In this particular case, there was a problem with the ventilation of the room. This reminds us how important is to keep an eye on external factors despite the main change being the removal of the ZnO. Normally the outbreaks are triggered by these types of issues, e.g. drinkers not working, problems with ventilation, etc.



Figure 2. Difference on body weight between those pigs fed ZnO at 3000ppm and those fed with no ZnO two weeks post-weaning.



Figure 3. A group of pigs requiring intervention.

Finally, and probably the situation that you don't want to find yourself in, is having an outbreak in pigs that are fed without ZnO. Chances are that this will happen on your farm at some point. That is why it is important that you trial the removal of ZnO while you can still bring ZnO back. In case of a problem, you can re-introduce ZnO in the feed and try to learn from what the problem was. Once an outbreak happens, open the pigs or call the vet to do it, take samples before medicating the pigs and check for antibiotic sensitivity if possible, in those samples. You want to know if the antibiotic that you are using is working or if it is a waste of time. That will be your best weapon once ZnO is gone. Figure 4 was taken in one of the farms in the study. Pigs in good condition 4 days after weaning started to die very fast. The only external sign was sunken eyes in some of the pigs. There was a 3% mortality in one day. The stomach were full in all the pigs as you can see in the picture, intestines (and other organs) were hemorrhagic and empty. Samples were taken and the sick pigs were immediately put on to ZnO in feed and an antibiotic. Despite the improvement, the total mortality in 2 days was 6%. The bacteria isolated were sensitive to the antibiotic used so we know that for the next time this may be a good antibiotic to use.



Figure 4. Post mortems were carried out on a study farm with high mortality.

At this point it is probably worth repeating the recommendations that we gave in August. If you have not tried to remove ZnO from your creep, it may be the time to start working on it. Try to start the trials with animals that have weaning weights above 6kg and then move to the smaller ones. In many cases, pigs that are above 6kg do not suffer without ZnO but below that weight you will need to follow the piglet closely. It is also worth trying it for 4-5 batches in a row. Not all the batches are the same and it is good to see how consistent the response is over time. As always, if you have any questions on this area contact your advisor and we can discuss the data in more detail and give more specific advice.

Finally, we would like to thank all those involved in these studies for all the help received, including the farmers, nutritionists and the vets, but especially farm staff. These kind of trials involve daily work on the farms, moving around significant amounts of feed, weighing pigs weekly and other tasks that would not be possible without their help. Thank you sincerely.

## Farewell Julia

Dr. Julia Calderón Díaz left Teagasc to join PIC last month as Product Development Specialist for the Global Team. Julia was a sensational asset for the Teagasc PDD during the last 5 years and contributed to several projects. Many of you will know Julia from the numerous farm samplings and questionnaires that she carried out during her first years in Teagasc. Julia has been very prolific in both scientific and technical areas; she was the organiser of the successful open day for project PathSurvPig and she was the creator of the Teagasc Pig Economic Model. The Teagasc PDD wants to say a big thank you to Julia for all the work done and wish her all the best in this new adventure. Gracias Julia!

## AHI PigHealthCheck database

The Animal Health Ireland (AHI) PigHealthCheck database was launched on November 15<sup>th</sup>. This database allows all data captured from the key programme activities for your farm to be linked

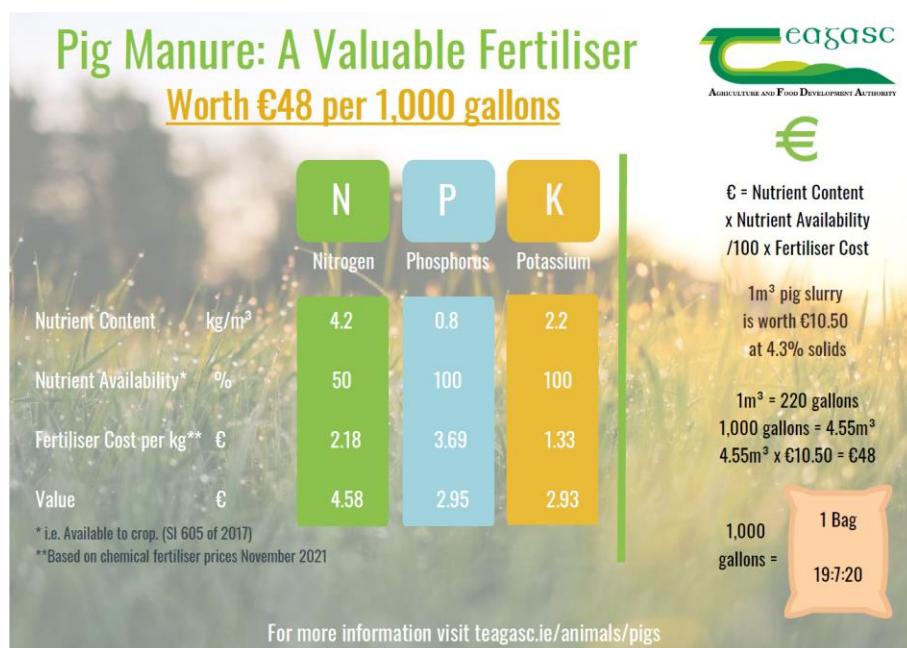
and analysed. There are dashboards for each component of the programme and they display the farm data and benchmark them against the performance of other herds and national averages. Currently you can access your information on Biosecurity (BioCheck scoring tool) and Tail Biting Risk Assessments. In the near future you should be able to access your information on salmonella testing and the DAFM Ante- and Post-mortem slaughter house results for your farm. You and your vet should have received an email with your login details by now. If not, contact AHI at [cgomes@animalhealthireland.ie](mailto:cgomes@animalhealthireland.ie) or +353719671928.

## Outlook 2022

Outlook 2022 will take place on December 7<sup>th</sup> from 9am-1pm. Michael McKeon will present the current situation and outlook for the pig sector. This will be a virtual event. For more information and to register please visit:

<https://www.teagasc.ie/news--events/national-events/events/outlook2022webinar.php>

## The value of pig manure Nov 2021



### For more information:

Please visit our webpage at:  
<https://www.teagasc.ie/animals/pigs/>

For any further information on newsletter content please contact the editor, Amy Quinn at: [amy.quinn@teagasc.ie](mailto:amy.quinn@teagasc.ie) or +353 87 3779015