

LITTER GUIDE




AgriFutures™
Chicken Meat



Queensland
Government

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KEY

1	dry and friable	✓	
2	moist and friable	✓	
2	dry and clumping	✓	
3	moist and clumping	✗	
3	dry and caked	✗	
3	wet and friable	✗	
4	moist and caked	✗	
4	wet and clumping	✗	
5	wet and caked	✗	

LITTER GUIDE

Daily litter condition assessment

How to use this guide

Checking litter conditions in the shed every day is an important part of shed management. This guide is a quick reference tool that will help to describe litter in a consistent way.

When doing the daily shed walk, visually check the condition of the litter in three different areas of the shed (the fan or non-silo end, middle, and the cool pad or silo end), and record the information.

In each spot run your foot through an area about half a square metre (0.5 m²) in size. Assess the condition of the litter directly underfoot in that area. Using the table on the following pages, give the litter a score (1–5) based on your assessment of its moisture and friability.

Each photo in this guide will include a colour that corresponds with the score in the table.

Any score of three or more will require corrective action.

DEFINITIONS



MOISTURE

- | | |
|--------------|--|
| Dry | Dry and crumbly. Does not hold together—falls apart if squeezed. |
| Moist | A little sticky on foot or hand. Footprints in litter will bounce back soon after pressure has been removed. Forms a ball when squeezed in the hand but crumbles apart when released. Usually a little darker in colour. |
| Wet | Litter is noticeably wet. Footprints stay in litter when walked on. If squeezed, litter forms a ball and holds together when released. |

FRIABILITY

- | | |
|-----------------|---|
| Friable | Free flowing, foot moves easily through the litter. |
| Clumping | As foot moves through litter, visible clumps or clods break away. Litter starting to cake in parts but still recoverable. |
| Caked | Cannot move foot easily through litter—crusted/capped layer of material on surface. |

LITTER GUIDE

SCORING TABLE

FRIABILITY

MOISTURE

		FRIABILITY		
		Friable	Clumping	Caked
MOISTURE	Dry	1	2	3
	Moist	2	3	4
	Wet	3	4	5

1 DRY & FRIABLE



Dry and loose

Foot moves freely and easily through the litter with no resistance

Consistent in colour throughout the profile and across the surface

Doesn't stick to boots

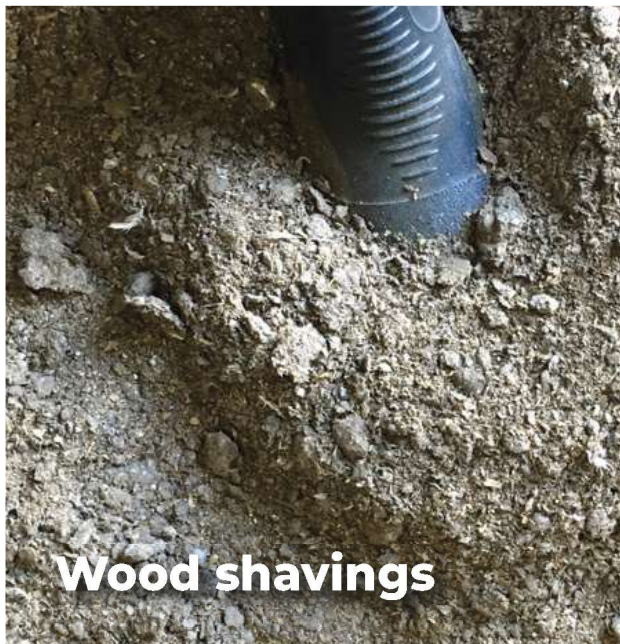
Can sometimes be dusty

Flows freely through the fingers and will fall apart after being squeezed

The mounded area in front of the foot can be a sign of friability

Feathers loose on the surface is often a sign of dry litter

Can be mixed with, or used to replace wet litter



Wood shavings

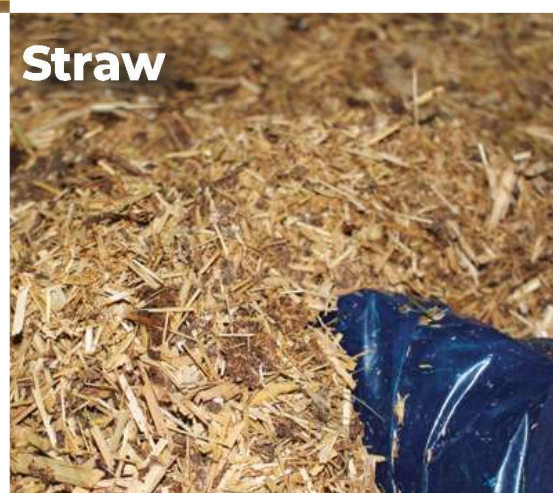


Wood shavings

Sawdust



Rice hulls



Straw



2 MOIST & FRIABLE



Foot moves freely through the litter

Will only find small clumps

Not dusty

Holds together slightly when squeezed, but will fall apart

May not easily flow through the fingers

After squeezing litter, moisture may be felt on the hand

Can be a little darker and inconsistent in colour through the litter profile



Wood shavings



Rice hulls



Sawdust



Sawdust



2 DRY & CLUMPING



Clods are seen when moving foot through the litter—there is little resistance

Clods are hard and difficult to break up

Dry, loose litter particles on litter surface

Feathers intact and on surface

Chicken activity may move clods around but will not break them up

Mechanical litter conditioning may be needed to improve friability



Wood shavings



Wood shavings



Straw



3 WET & FRIABLE



Most commonly seen with fresh bedding material or immediately after mechanical conditioning of wet or moist litter

Wet friable litter can be found beneath the surface of caked litter

Will stick to your boots

Will compact very quickly

Chicken activity will tend to compact the surface rather than work the litter

Mechanical conditioning will break apart the compacted litter and expose the wet friable material underneath

Requires ventilation to remove excess moisture



Wood Shavings



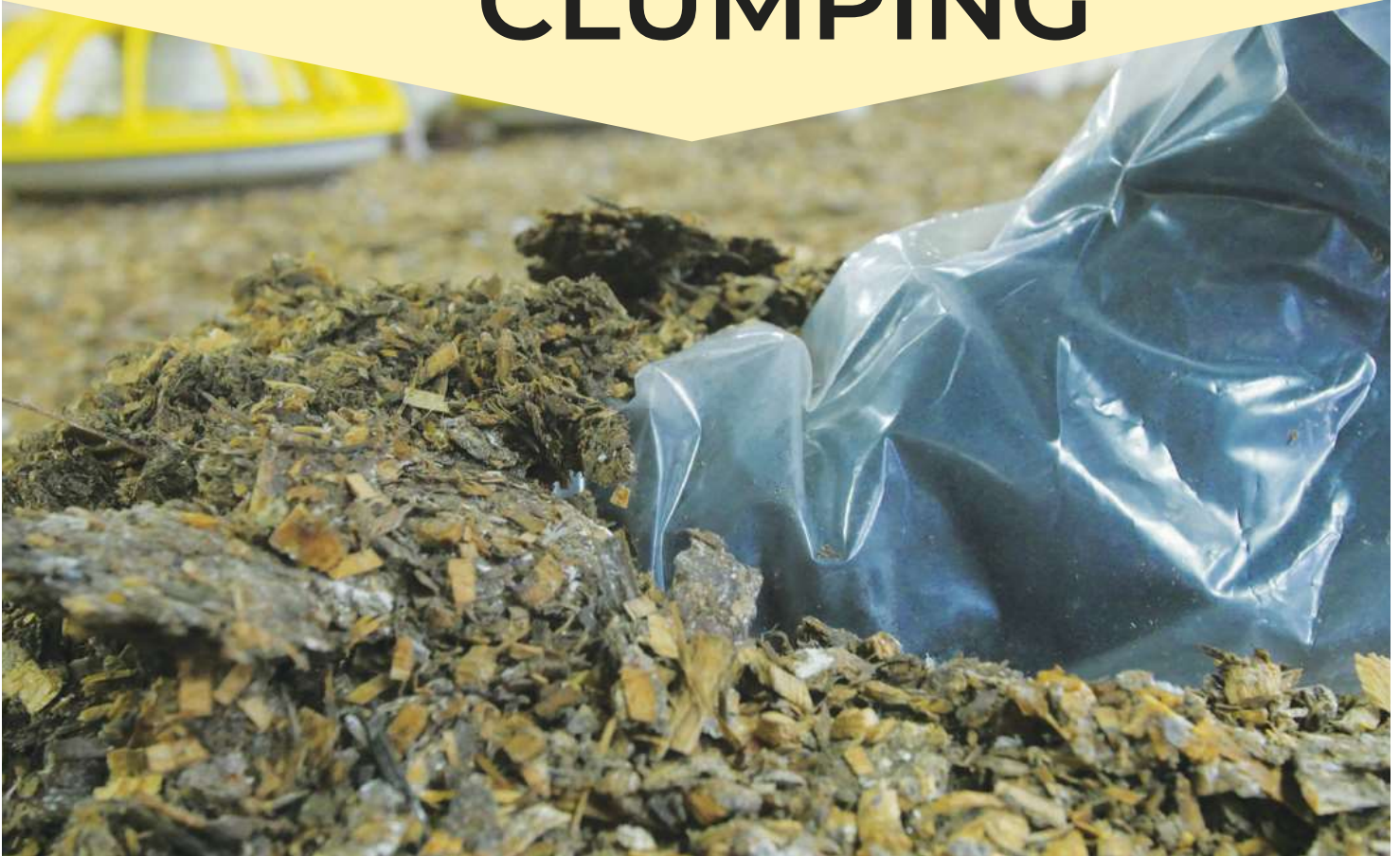
Rice hulls



Rice hulls



3 MOIST & CLUMPING



Large clods or clumps of litter starting to form

Breaks into smaller clumps as foot moves through litter

Doesn't cover an extensive area

Litter can be sticky and darker in colour

Requires corrective action, otherwise it will soon cake over

Possible corrective actions include mechanical litter conditioning combined with extra ventilation and heating



Wood shavings



Straw



Wood shavings



3 DRY & CAKED



Distinct capped or crusted surface

Foot does not move easily through litter— there is resistance

Large sheets of cake lift up when foot is moved through

Can often see a distinct ridge line between the cake and dry friable litter

Surface may have loose, dry litter particles

Litter particles, flicked onto cake surface from chicken activity, remain loose

Excreta will remain on the caked surface

Mechanical litter conditioning is required to break apart the cake

Litter conditioning will release ammonia and other gases from beneath the caked surface. Ventilation may need to be increased.



Rice hulls



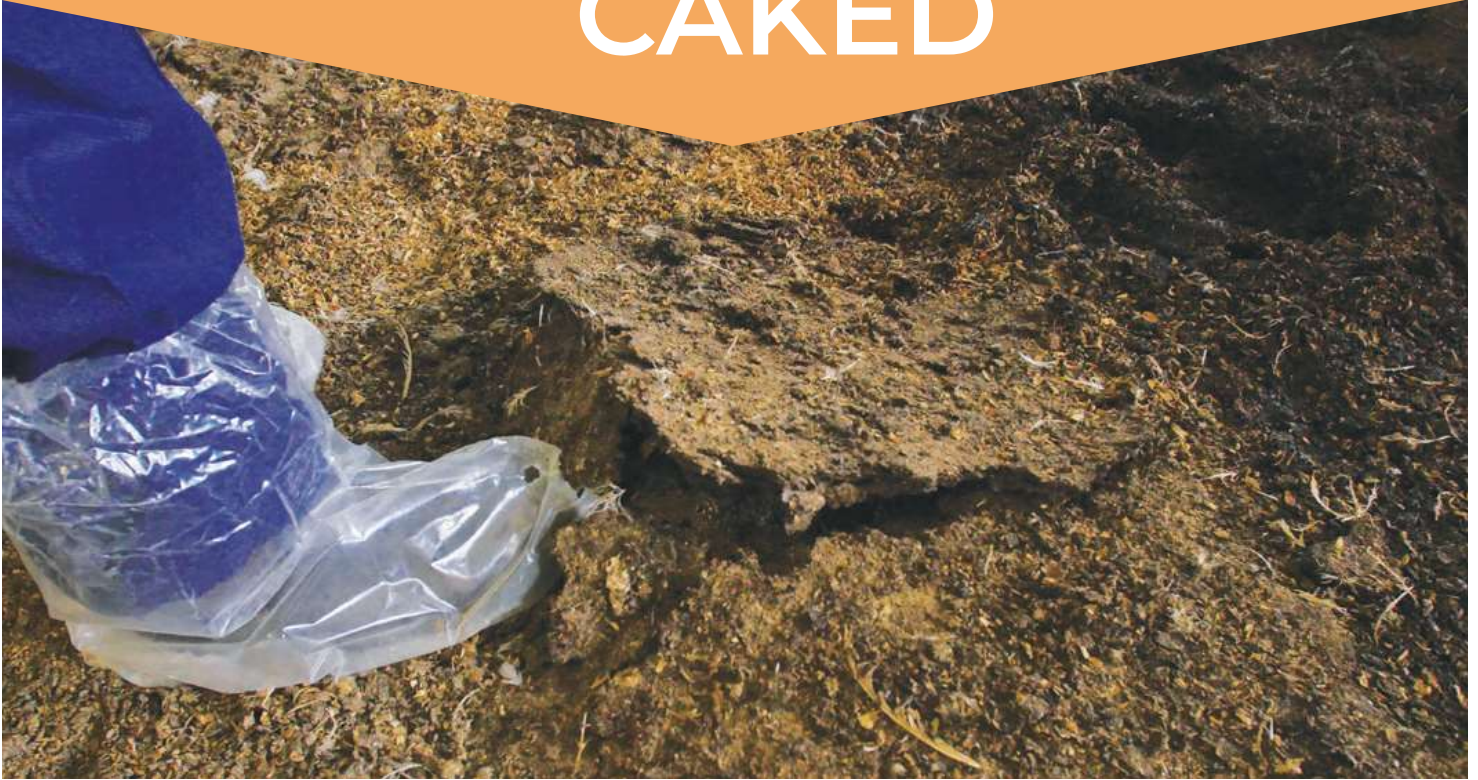
Straw



Wood shavings



4 MOIST & CAKED



Litter lifts up in large sheets of cake as foot moves through the litter. There is often resistance

Cake can be pliable, but can also be broken into smaller pieces

Surface is sticky

Caked litter will feel soft and spongy under foot

Feathers starting to stick and mat on the litter surface due to the extra moisture

Litter conditioning will release ammonia and other gases from beneath the caked surface. Increase ventilation to remove ammonia away from the chickens and out of the shed



Wood shavings



Sawdust



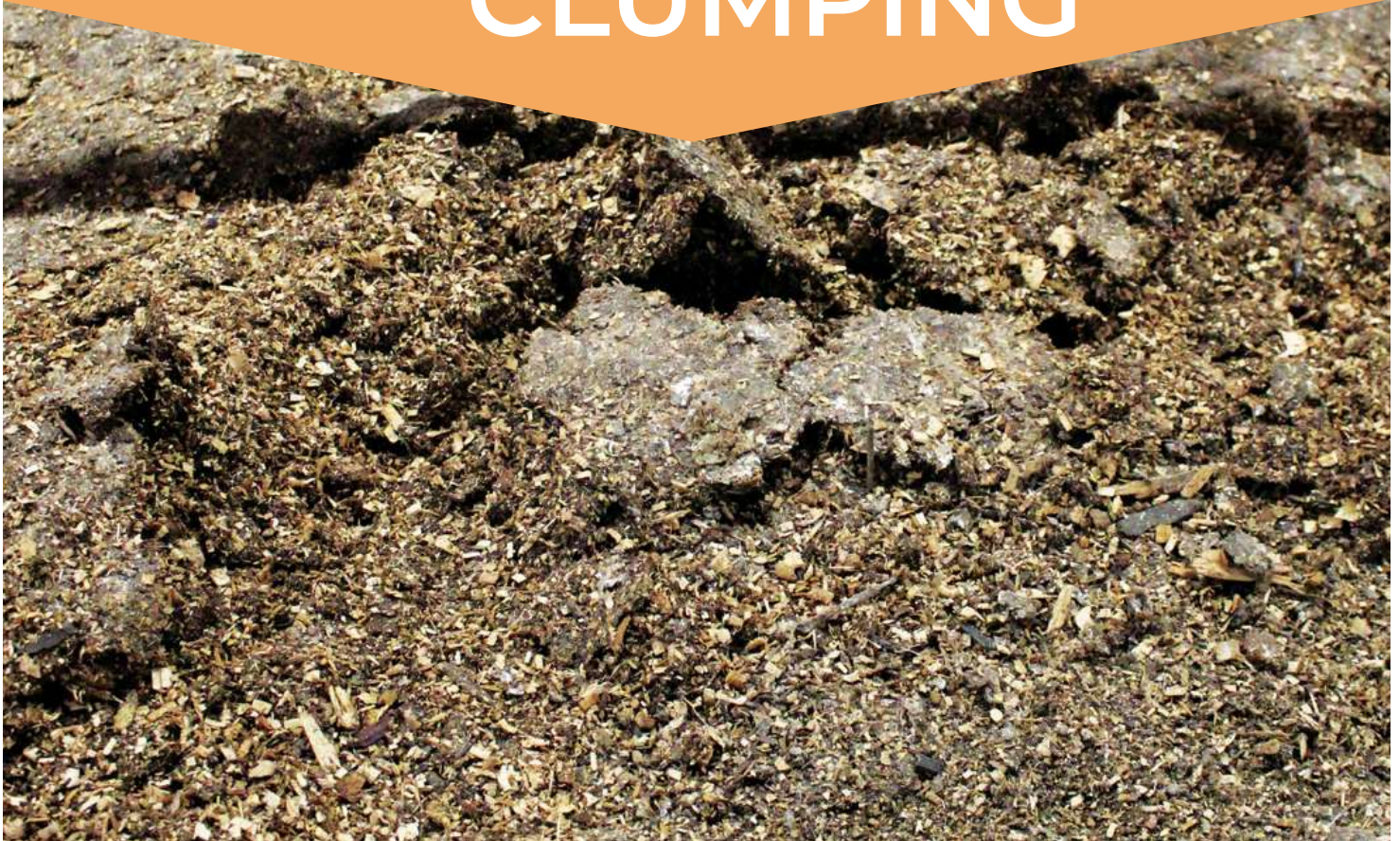
Rice hulls



Wood shavings



4 WET & CLUMPING



Litter is darker in colour

Clumps or clods are visible in the litter and starting to form a thin layer of cake

Litter will stick to your boots

Will cake quickly

Requires corrective action to improve litter conditions

Adding dry friable litter will absorb moisture from the wet litter, combined with mechanical conditioning and ventilation to help rectify small areas



Sawdust



Straw



Wood shavings

5 WET & CAKED



Visibly wet and can look muddy

Chicken footprints can be seen in the litter

Unlikely to see loose, intact feathers

Dirty feathers on the chickens can be a sign of wet litter

Foot doesn't move through the litter, instead it is pushed up and retains its shape

Footprints remain after removing pressure

Forms a ball when squeezed and stays together after being released

Requires immediate corrective action

Adding dry friable litter will absorb moisture from the wet litter, combined with mechanical conditioning and ventilation to help rectify small areas

Wet litter may need to be removed



Wood shavings



Rice hulls



Wood shavings

FACILITY & MANAGEMENT FACTORS THAT AFFECT LITTER MOISTURE AND FRIABILITY

- ▶ Moisture content and quality of material at the start of the batch
- ▶ Inadequate or poor ventilation
- ▶ Leaking drinker systems
- ▶ Leaking nipples
- ▶ Drinker pressure
- ▶ Drinker height
- ▶ Water quality
- ▶ Shed tightness
- ▶ Condensation
- ▶ Cold floors
- ▶ Preventative litter maintenance

CORRECTIVE ACTION

The corrective action to address litter conditions will depend on each situation.

Options include:

- ✓ correct or increase ventilation and air circulation
- ✓ maintain drinkers to minimise leakage
- ✓ adjust drinker pressure and height
- ✓ pay attention to humidity levels
- ✓ mechanical litter conditioning
- ✓ incorporate dry and friable litter into wet areas
- ✓ remove litter that is irreparable
- ✓ adjust heating
- ✓ improve shed tightness and insulation

HOW LITTER WORKS

In litter that is dry and friable, manure is broken up, coated in litter particles and worked into the litter by chicken movement. The litter quickly absorbs the moisture in the manure, which can be dried through ventilation.

When the litter is caked or wet, the surface is compacted and chicken movement is not able to break apart the litter material. Manure will smear across the compacted surface, making it harder for the litter to dry out.



*Left: the chicken is standing **on top** of the caked litter. The litter is not 'working'*

*Right: the chicken feet **engage** with the litter and able to mix (or work) the friable litter*

Note: photo was taken during research trials

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