



Farmer's
Ahead by a good length. Again.



FARMERS PRODUCT MANUAL

A USERS GUIDE



INTRODUCTION

In general you can keep your baler or wrapper operating efficiently and the product running properly if you follow the instructions in the manufacturers manual for your machine.

The information given here, with emphasis on the product, rather than on the machine, is intended to complement some of the most important points given in the manuals and to add some others. They will help you to prevent faults and to put faults right in the field with a minimum of lost time.



Index

Introduction	1
Index	2
Baler Twine Guide	3
Types of Twine	4
Farmers Power Pack	5
How to care for Baler Twine	6
Baling Hints	6-7
Big Square Silage/Haylage Baling	7
Big Square Straw Baling	7
Preseason/ end of season checks	8
Net Wrap Guide	9
Types of Net Wrap	10
How to care for Net Wrap	10
Round Bale Net Wrap Baling hints	11-12
Stretch Wrap Guide	13
Types of Stretch Wrap	14
How to care for Stretch Wrap	14
Wrapping Hints	14-15
Stretch Wrap Troubleshooting	16
Wrapping Problems	16
Handling and Storage	16-17
Silage Quality	18





Ahead by a good length. Again.



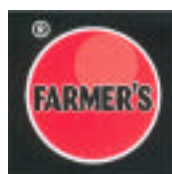
BUYER TIME GUIDE



BALER TWINE GUIDE

TYPES OF TWINE

8000/9000 SISAL BALER TWINE	FARMERS SISAL baler twine is suitable for use in high density balers where a natural fibre product is required.
12000 MEDIUM BALER TWINE	FARMERS POLYPROPYLENE MEDIUM baler twine is suitable for use in all modern high density balers.
10000 HAY BALER TWINE	FARMERS POLYPROPYLENE HAY baler twine is manufactured specifically for hay baling - a bulkier softer twine which does not cut the hands - allows heavier density bales - can be used in all modern high density balers.
22300 FINE BALER TWINE	FARMERS POLYPROPYLENE FINE baler twine. Suitable for use in all round balers - ensure sufficient twine is used to contain the bale i.e. 18 rounds for a four foot bale and 24 rounds for a five foot bale.
9250 TRUCKER BALER TWINE	FARMERS POLYPROPYLENE TRUCKER baler twine was developed to meet demand for the heavier density bale - for use with all modern high density balers where bale weight is in excess of 32 kilos (70 lbs)
4800 BALER TWINE	FARMERS POLYPROPYLENE 4800 baler twine is a special twine for use with the Howard big baler, McConnell bale packer and older models of Vicon and Massey M5 unable to accommodate the new generation superspool.



FARMERS POWER PACK

- THE STRONGEST BALER TWINES
- MADE ON THE WORLDS MOST MODERN MACHINERY

<p>6800 HESSTON BALER TWINE</p>	<p>FARMERS POWER PACK POLYPROPYLENE 6800 baler twine. The ultimate twine for use in excessive conditions of short dry straw and high temperatures.</p>
<p>7200 HESSTON BALER TWINE</p>	<p>FARMERS POWER PACK POLYPROPYLENE 7200 baler twine. The U.K.'s best selling super spool twine suitable for use in most big square balers.</p>
<p>8600 HESSTON BALER TWINE</p>	<p>FARMERS POWER PACK POLYPROPYLENE 8600 baler twine. The original super spool twine developed for big square balers.</p>



HOW TO CARE FOR BALER TWINE

- 1) Stack spools/packs on wood (pallets or racks) and store in a **dry** clean area.
- 2) Do not leave spools/packs out in **wet** conditions. Keep spools cool and dry.
- 3) Do not leave spools/packs lying in the **field** overnight.
- 4) In **wet** weather make sure twine box lid is tightly closed.

BALING HINTS

- 1) Keep spools/packs under **cover** until actually required.
- 2) Do not remove **shrink wrapping** from the spool as this is an integral part of the spool both supporting the spool and promoting the free running of the twine. Without the support of the shrink-wrap, the spool will collapse and tangle.
- 3) Make sure the twine box is clean and dry before placing twine in the machine.
- 4) Make sure that the spool is the correct way up in the twine box. The twine will come out of the spool in an **anti-clockwise** direction. Tie the inside end of the reserve spool to the outside end of the working spool.
- 5) Make sure the **reef knot** is secure and small enough to pass through the guides and needle eyes.
- 6) Make sure that the **twine-tensioning device** is properly adjusted according to the baler-operating manual. Too much tension may cause continuous kinks to go back into the spool and tangle up. Too little tension may cause a kink at the retainer face, which would result in a break. On older balers ensure that the tension is released when using polypropylene twine until minimum drag is felt when drawing out by hand.
- 7) Keep all **knotter** mechanism surfaces smooth.
- 8) Keep **knives** sharp.
- 9) Keep **knotters** clean and oil lightly. Oil and dust produce an abrasive compound causing excessive wear of moving parts.



- 10) Early models of some models had a problem with **twine abrasion** in the twine retainers causing twine breakages. There should be no problem with newer models with modified twine retainers.
- 11) Twines made from **non mechanically fibrillated tape** are prone to dust and fibril build up in the knotters causing them to jam and give major damage.

BIG SQUARE SILAGE/HAYLAGE BALING

For top quality big square silage/haylage bales it is essential to observe the following:

- 1) The crop should have wilted to a minimum **35% - 45% dry matter for silage** and **55% - 60% for haylage**, which will give well shaped bales and excellent fermentation.
- 2) Make sure the **twine box tension** is reduced as much as possible, as twine friction on silage bales during baling is much greater than in other crops.
- 3) It is essential to eliminate as much **air** as possible from the crop when baling. Ensure that enough crop is packed into the top of the bale to avoid mis-formed bales which make it difficult for an automatic bale wrapper to handle. A reduction in forward speed will achieve this by increasing the number of wads per bale.

BIG SQUARE STRAW BALING

- 1) **Bale pressure** must be watched carefully depending on the type and condition of crop being baled. During conditions of short dry straw and high temperatures straw bales may be lighter than normal with the baler set to the usual pressure setting. Increasing the pressure to make a heavier bale in these circumstances will not solve the problem as this will increase the tension on the twine and may give twine breaks. This however is not a twine problem but due to the short dry crop. The alternative is to accept the lighter bales or for the periods of the day (11.0am – 3.00pm) when this is most likely to occur to change to **FARMERS Power Pack 6800**. This problem is most prevalent in barley straw.



PRESEASON / END OF SEASON CHECKS FOR SQUARE, ROUND AND BIG SQUARE BALERS – THE FOLLOWING GUIDANCE NOTES ARE TAKEN FROM THE MAJOR MANUFACTURERS MANUALS.

- 1) **Clean** the baler inside and out with high pressure washer (silage baling) or with compressed air (hay/straw baling).
- 2) Oil and grease all **moving parts**.
- 3) Check **knotters** for worn parts. Pre season replacements will save time, money and increase your baling efficiency.
- 4) Clean **needle slots**. Make sure there are no hard objects in the slots, which could break or distort the needles.
- 5) Rough and **ragged surfaces** mean torn twine and loose bales. Examine areas over which twine runs and see that all are smooth and polished.
- 6) **Worn** twine guides and **sharp edges** will damage the twine. Replace worn guides or smooth the edges.
- 7) Worn **ram-guides** can damage needles and cause knotter trouble.
- 8) Sharpen and adjust **twine knife**. Make sure of clean cutting and prevent torn knots on a tied bale.
- 9) Ensure that wet silage crop is not left to set hard on the **chamber rollers** of the baler after use, as this can cause damage to the net on the bale when first wrapping during the following season.
- 10) **Baler** must be stored under cover.
- 11) Make sure **net feed rollers** do not get wet or dirty. this can lead to problems when baling the following season





Ahead by a good length. Again.



NET WRAP GUIDE



NET WRAP GUIDE

TYPES OF NETWRAP

FARMERS Netwrap-the international net quality – Manufactured with guaranteed length and strength throughout the whole net.

12 x 3000 Netwrap	Suitable for use in all round balers
12 x 2000 Netwrap	Suitable for use in all round balers
12 x 3000 x 1.30m wide Netwrap	Suitable for use on the New Holland 544 and Welgar round balers
14 x 2000 Heavy Duty Netwrap	Suitable for use in all round balers
500 x 1800 Mininet	For use on the Caeb Mountainpress MP 550 mini round baler.
600 x 1400 Mininet	For use on the Wolvo R 500 mini round baler
690 x 1100 Mininet	For use on the Abbriata M50 mini roto baler and Starfarm Mini Baler

HOW TO CARE FOR NETWRAP

- 1) Rolls should be kept **palletised** and stored in a dry clean area.
- 2) **Sleeves and bungs** should not be removed until you are ready to use as core ends are easily damaged.
- 3) Do not leave outside in damp or wet conditions as the **cardboard core** may expand and not fit into the baler or indeed will rotate and shred when you attempt to use it.
- 4) Each layer on the pallet is strapped. For safety reasons only cut the **straps** of the layer you wish to use.



ROUND BALE NETWRAP BALING HINTS

- 1) Check and clean the baler, looking for rust or snagging points which may tear the net such as net box sides, spreader bar etc. check that the **netbox** is clean and free from dirt and debris. On belt balers check the **metal belt connectors** (clasps) as these if they open out can cause a tear and “ladder” the net.
- 2) Unpack the roll carefully, making sure not to drop onto hard or rough surfaces which will damage the core or the net. Some baler models rely on the ends of the core for roll braking and running. Load the roll into the baler making sure to follow the threading instructions as specified by the manufacturer. Make sure all **rollers and tension bars** are clean and polished.
- 3) Adjust the net **tension brake** according to the manufacturers handbook. After a few bales check the net tension on the bales to ensure the netting is not applied too tightly - risk of breakages and splits – or too loosely – risk of poor cutting, loose bales and excessive necking in of net. Make minor adjustments if necessary and check again according to changing weather or crop conditions.
- 4) Where the net is fed by **two rollers** make sure that these are correctly aligned exerting an even tension across the width of the net.
- 5) The wrong tension will result in poor net coverage. As the roll becomes smaller care must be taken that tension is kept constant.
- 6) Pay particular attention to **rubber rollers**. To prevent the net fouling and wrapping round the rollers when feeding in, dust down with french chalk or talcum powder when putting in a new roll.
- 7) Make sure the **knife or shear bar** are correctly positioned and sharp. Ensure there are no missing teeth on the shear bar. If not this will cause tearing and possible feeding problems with the next bale.
- 8) **Static** can be a problem in certain conditions and certain balers. It may be necessary to remove the roll from the sleeve some time before baling to allow static to discharge. This however may not be enough and another solution is to pour water over the rollers. It has been suggested that immersing the roll in water, but this is not advisable as it may cause a problem with core. In certain balers if static is present the net instead of hanging limply ready to be picked up for the next wrapping cycle will lift and adhere to itself meaning the net is either not picked up or only partially picked up causing the net to tear.



- 9) When baling always ensure the **bale chamber** is evenly loaded to produce a cylindrical bale. In narrow swards it may be necessary to weave the baler to ensure this even loading. A mis-shaped bale will not allow proper and even application of the netwrap.
- 10) Always apply a minimum number of **wraps** depending on the crop and conditions. If not enough wraps are put on the bale this will lead to splitting.
- 11) Care should be taken when ejecting the bale to make sure the bale does not snag on the **baler belts or rollers** tearing the net. It may be necessary to stop the P.T.O. or reduce P.T.O. Speed.
- 12) Handle the bales carefully making sure the bale is lifted clear of the stubble before moving forward. Avoid piercing the wrapped surface with loading forks or tines.





Ahead by a good length. Again.



STRETCH WRAP GUIDE



STRETCH WRAP GUIDE

TYPES OF STRETCH WRAP

FARMERS POWER STRETCH - SILOGRASS – NEW HOLLAND

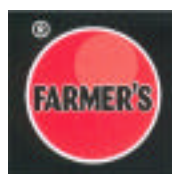
250mm x 1800m	Green 96 rolls per pallet
375mm x 1500m	Green 80 rolls per pallet
500mm x 1800m	Black, Green or white 48 rolls per pallet
750mm x 1500m	Black, Green or white 40 rolls per pallet

HOW TO CARE FOR STRETCH WRAP

- 1) Rolls should be stored **upright** in cartons in cool dry conditions.
- 2) Ensure the film has reached the **ambient temperature** before use.
- 3) Only **remove** from cartons when ready to load onto the wrapper.
- 4) Handle carefully to avoid **damage** particularly to the **edges** of the roll.

WRAPPING HINTS

- 1) Ensure the wrapper is set at the correct **width** of film, which is to be used.
- 2) Place the film roll on wrapper so that the **tacky outer surface** of the film will face inwards towards the bale.
- 3) For round bales **calibrate** wrapper on first bale to apply four layers by checking number of turntable or sweep-arm revolutions required covering it once, then adding one. Repeat this number of revolutions twice more. Remember that **pre-set automatic** machines assume all bales are identical – very often they are not. To calibrate square balewrappers please check the manufacturers instructions.
- 4) Check regularly that all parts of the wrapper are working correctly and are **lubricated** where necessary – in particular the pre stretch unit.



- 5) Keep pre stretch unit rollers **clean** and free of tack build up.
- 6) Make **dense** bales of equal size and shape.
- 7) Do not use treated **Sisal** twines to tie bales.
- 8) On round bales the use of **net wrap** means more better shaped bales per hour which allows for easier and more consistent wrapping.
- 9) Ensure that the crop whether silage or haylage is at the optimum **dry matter** content level.
- 10) Wrap within two hours of baling and if possible at the storage site. Remember that **mis-shapen bales**, which are left too long, will be more difficult to wrap and will use more film.
- 11) Check the degree of **stretch** by placing two marks horizontally in line 10cm apart on the film roll. Locate these marks when the film has been applied to the bale and measure the new distance between them. This distance should now be 17 cm which would indicate a 70% stretch, this method can be used on both round and square bales. If **overstretching** has occurred stop wrapping and find the cause before continuing.
- 12) Round bales **wrapped with net** will reduce the amount of **air** trapped in the bales.
- 13) Choose a **storage** site away from trees and not too close to hedges.
- 14) The **site** should be well drained and covered with a fine surface material to avoid damage to the bales by sharp objects.
- 15) Place the wrapped bales in the storage site as soon as possible using proper handling equipment. Ideally round bales should be stacked on their **flat ends** with any “banana shaped” square bales being stored on the **concave** side. Avoid damage to film during handling.
- 16) Stack in one, **two or three** layers depending on dry matter content. It may be possible to stack more than three layers with square bales.
- 17) Cover stack to prevent **bird** damage.
- 18) Ensure stack is **fenced** to prevent access by livestock and other animals.
- 19) Regularly check bales and **repair** any damage using U.V. Stabilised patches.



STRETCH WRAP TROUBLESHOOTING

With improvements in machinery and wrapping techniques silage bale wrapping can be a trouble free operation. Those problems, which do occur, are usually in the following areas:

- 1) The wrapping operation.
- 2) Handling and storage.
- 3) Silage quality.

WRAPPING PROBLEMS

- 1) **Overstretching** – film should be stretched within the range 55-70% and most balewrappers are designed to work within this range. The final film width should be not less than **400mm** with 500mm film and **600mm** with 750mm film. If the film has been taken beyond these limits it will have been weakened and the film overlap will be reduced with consequences for the silage. The most likely causes of overstretching are either a worn or **unlubricated** pre -stretch unit or an incorrectly adjusted **film-braking device** on the machines, which use them. Another factor may be the build up of **tack** on the pre - stretch rollers which need to be kept clean. Excessive operating **speed** may result in brief periods of overstretch immediately after each bale edge. Higher **temperatures** will accentuate the problem. Manufacturers operating speeds should not be exceeded.
- 2) **Holes/tearing film** – the cause of this is usually due to the **end** of the roll being damaged. Careful storage and handling is essential.
- 3) **Film layers not adhering** – this is normally due to a **low tack** level. This can be confirmed if the normal “screech” of the film coming off the roll cannot be heard as well as physical touch.

HANDLING AND STORAGE

- 1) **Splits in film** – when they occur they usually appear along the side of the bale and very often are through all film layers. This will not normally happen when using a good quality film. The majority of cases of splits are normally caused by either too little film having been applied or over stretching due to a faulty pre stretch unit. In both instances the wrapped bale will be more prone to handling damage due to the overall cover of film being weakened.



- 2) Fully **automated balewrappers** assume that all bales are identical in diameter and perfectly shaped. In many cases this is not so where film has split on wrapped bales. The splits are in the area of the bale just ahead of the last film to be applied. A check on the number of **layers** at that point will often reveal that less than the required minimum are present – this is evidence that more turns of the wrapper were required. A worn or badly maintained pre-stretch unit is likely to overstretch the film causing it to both narrow and thin. This may be accentuated in **hot** weather causing film overlap to be seriously reduced from the minimum 50% recommended and weakened film will be more likely to give way under pressure.
- 3) **Damage to wrapped bales** – the greatest percentage of damage to wrapped bales is caused by animals. Most of this can be avoided – see comments under wrapping hints. **Bird** damage is the most common and can be identified by the appearance of numerous holes 2 – 5 mm and mostly on the upper bale surfaces where birds can land. Normally the holes will be through all layers. Sometimes twine, netwrap or grass may have been pulled through the holes and there may be signs of footprints and droppings. Wrapped bales left standing in the field for a period after wrapping may also have damage close to ground level. Other animals such as **cats, dogs, foxes** etc can also cause damage but this should be easily identified by paw prints, tears and holes. Unlike bird damage this can be seen on the **sides** as well as the tops of bales. The damage caused by animals is frequently mistaken for film faults. However a film fault will not manifest it self in this way because the 50% overlap system ensures that the chances of **two** or more faults coinciding on the bale is almost impossible.
- 4) **Mechanical damage** – there are a number of causes but can usually be easily identified. Ensure care is taken when using mechanical **handlers** particularly if bales have been left sitting too long and become mis-shapen. In addition to holes and tears abrasion and scuff marks may be visible. Bales can also be damaged by stubble or sharp stones when being dropped from the wrapper. Gentle handling and the use of a mat will prevent this. Stubble damage can be identified as pinholing on the circumference of the bale.



SILAGE QUALITY

Good crop practices will lead to good quality silage or haylage. If these are ignored the results may be of poor feed value or spoilage which may make them unusable for most stock.

Secondary fermentation - If the initial fermentation is incomplete and the crop does not reach the necessary high acidity to stabilise the bale then a secondary fermentation will occur with an increase in butyric acid and a loss of lactic acid. Secondary fermentation silage will have a strong and unpleasant smell and will have a slimy green/brown appearance and be unpalatable.

Fertiliser utilisation – Cold weather in the early season can result in partial take up by the grass of the fertiliser. The result of this is increased nitrates and ammonia nitrogen and poor preservation and palatability.

Yeast and moulds – These generally are caused by poor handling of the crop. Crop, which has been wilted for a long period, will give fungi time to grow. Moulds need oxygen to grow so a bale which is dense, wrapped quickly after baling and free from contamination should be mould free. Crops with a long wilting period are likely to have more sugar but will also contain more oxygen due to lack of density.

Generally mould problems occur in late cut grass where bales are less dense, possibly misshapen allowing air spaces inside the bale. Varying temperature means varying pressure inside the bale and if the temperature drops it can draw oxygen into the bale.

It is necessary to ensure no crop lies between the film layers as this will allow air to get in and again cause moulds.

If mouldy or poor quality silage or haylage is found it is essential to take a minimum of two samples for ADAS testing as their report can determine the cause and prove the film was not defective.

IF IN DOUBT WITH SPOILED CROP ALWAYS TAKE SAMPLES FOR TEST.

