



Hay Preservative Applicators and Precision Components THE KEY TO QUALITY



Moisture Testing | Hay Preservative Applicators | Hay Preservative
RFV Calculator | Bale Tagging | GPS Yield Mapping | Dye Spray Marking

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Moisture is the challenge

AGCO Hay Preservative is the solution

The number one issue that challenges today's hay producer is moisture. Wait too long and the hay will lose feed value. Bale too soon and you'll get two things: mold and heat resulting in poor quality hay.



AGCO Hay Preservative and Application Systems can take you from this...



... to efficient baling and high quality bales with relative ease.

MOLD

- At moisture levels of 16% and above, mold, fungi, and yeasts start to multiply, giving the hay an off-color and dusty appearance and can start to produce harmful mycotoxins. The hay may also start to heat.

HEAT

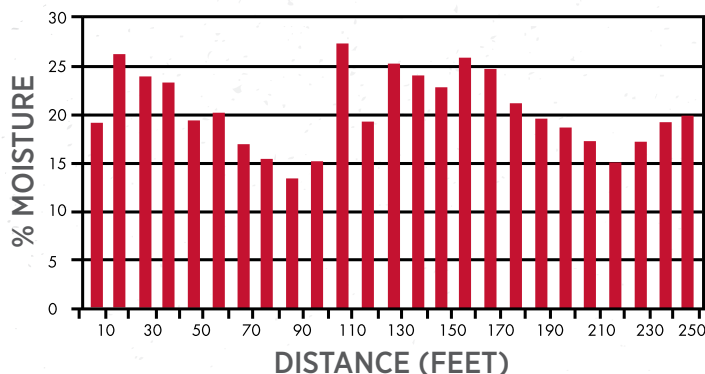
- Hay baled at 16% to 22% will heat to over 115°F, causing discoloration and the loss of its fresh smell.
- Between 23% and 26%, hay can reach temperatures of over 120°F in storage, causing brown to black caramelized hay.
- Moisture levels of over 27% can result in heating to 140°F and above, and may even combust.

AGCO Hay Preservative and Application Systems will allow you to bale between 16% and 30% moisture, giving you a jump on the weather, reduce leaf shatter, and bale more acres per day. AGCO Hay Preservative eliminates the heating and deterioration caused by the growth of mold, and is effective on all types of baled forage crops, including alfalfa and grass, which are susceptible to spoilage at higher moisture levels.

AGCO Hay Preservative

Maintains bale quality and safety.

Hay moisture not only varies from one side of a cut hay field to the other, it can vary within the windrow itself. Wet hay can lead to high CFU (colony-forming unit) mold counts, which will not only erode your hay quality but also your profits. AGCO Hay Preservative will keep CFU mold counts down and hay quality and profits up.



Windrow Moisture Taken Every 10 Feet.
Second Alfalfa Cutting - Artesia, NM, USA.

As this chart reveals, moisture within the windrow can vary as much as 13% within as little as ten feet. This means parts of the windrow may be dry enough to bale, while other parts of the same windrow are not. AGCO Hay Preservative allows you to bale within a wider acceptable moisture range without sacrificing hay quality.

We have been using AGCO Hay Preservative for 12 years on two AGCO 3x4 balers. If the baler is running, the HayBoss is turned on. When hired help run the balers we have a sense of relief that no wet bales will heat up on us because the HayBoss automatically turns on applying the correct amount of product.

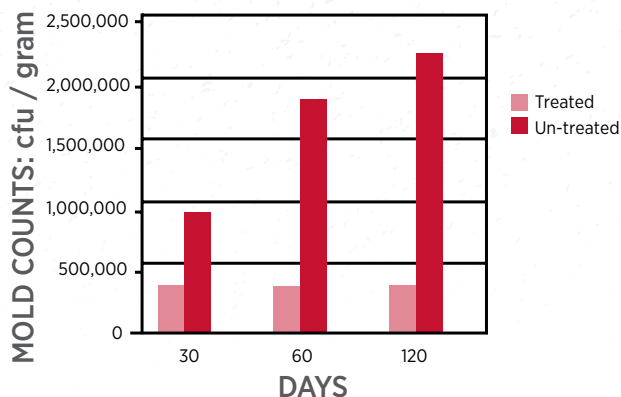
Otto and Ryan Huffman, Tulelake, CA

3' x 3' Large Square Bales Harvested at 22% Moisture and Treated with AGCO HayPreservative 2002 University of Wisconsin Research

This chart reveals the difference in mold development in treated vs. untreated hay. Even four months after being baled wet the treated hay still maintains a consistently low CFU mold count. AGCO Hay Preservative allows you to bale within a wider moisture range while inhibiting mold development.

If you wait for the wet parts of the windrow to dry, one of two things will happen:

1. That extra day or two can bring rain.
2. The drier part of the windrow will get too dry and excess leaf shatter will result in lower quality and yield loss.





Bales treated with AGCO Hay Preservative yield more and have a higher relative feed value. It's also safe for all livestock. Propionic acid, the main ingredient in AGCO Hay Preservative, is an organic acid occurring naturally in the gastrointestinal tract of horses. It's also produced in the stomachs of ruminants.

AGCO HAY PRESERVATIVE INGREDIENTS	
ACTIVE INGREDIENT Propionic Acid	64.5%
OTHER INGREDIENTS Citric Acid Ammonium Hydroxide, Deionized Water, Sorbitol, Green Dyes	5.0% 30.5%
EPA REGISTRATION #: 73877-1-72909	Total 100%

More and more livestock owners are choosing to feed hay treated with AGCO Hay Preservative because of the improved bale quality.

Hay is greener and higher in feed value. Treated hay can be stored for years and still look and feed as well as when it was first baled. Untreated hay can mold and spoil causing a loss of dry matter, as well as create dust and even spores, both of which are harmful to the animal's health.

CONTAINER SIZES	
SIZE	PRESERVATIVE AMOUNT*
13 U.S. gal / 49.2 L	120 lb / 54.4 kg
50 U.S. gal / 189.3 L	450 lb / 204.1 kg
200 U.S. gal / 757.1 L	1,800 lb / 816.5 kg
270 U.S. gal / 1,022.1 L	2,380 lb / 1,079.5 kg
*Preservative is sold per pound, not per gallon. 1 Gallon = 8.83 lb / 4 kg	



APPLICATION RATE CHART			
Baler Type	Moisture	Stem Moisture	Dew Moisture
Large Square	16% - 19%	4 lb/ton	3 lb/ton
	20% - 22%	6 lb/ton	3 lb/ton
	23% - 26%	10 lb/ton	8 lb/ton
	27% - 30%	DO NOT BALE	16 lb/ton
Small Square	16% - 22%	4 lb/ton	2 lb/ton
	23% - 26%	8 lb/ton	6 lb/ton
	27% - 30%	16 lb/ton	12 lb/ton
Round	16% - 22%	4 lb/ton	2 lb/ton
	23% - 26%	8 lb/ton	6 lb/ton
	27% - 30%	16 lb/ton	12 lb/ton

Baling alfalfa at 22% vs. 14% moisture.

- 10% more dry matter harvested
- 4% more weight from retained moisture
- 24 points higher feed value*

*"Mechanical Properties Affecting Leaf Loss in Alfalfa", W.K. Bilanski, CANADIAN AGRICULTURAL ENGINEERING, Vol. 15, No. 1, June 1973

Customize your baler to fit how you operate

A strong line of precision components is available to give hay producers an advantage in varying conditions. These precision components are designed for your existing HayBoss G2 Applicator or HT600A Moisture Monitoring System, taking your hay operation to the next level.

HayBoss G2 Applicator

The industry leader in preservative application, the complete G2 applicator uses Star Wheels Sensors to measure moisture and tonnage, and applies the AGCO Hay Preservative automatically, depending on conditions. As the bale is being made, the system gathers detailed information on moisture, weight, and preservative used, which can be downloaded as a job record.

HT600A Moisture Only Kit

The basic kit offered by AGCO reads moisture and tonnage as well as calculates and downloads individual bale records. Consisting of two star Wheel Sensors and G2 Dual Channel Processor (G2DCP), this is the entry level system to gain a foothold on capturing precision in your hay operation.



EXPANDED PRECISION COMPONENTS

HayBoss G2 Tagger*

A Radio Frequency Identification (RFID) tag is placed on each bale with all the crucial information taken from the HayBoss G2 Applicator or HT600A systems. Scan the tag and you have the ability to track and manage each bale from start to finish.

* U.S. Patents 7,621,111B2 and 7,415,924B2

HayBoss G2 RFV Calculator**

A new and important feature to help manage and record fluctuating variations, it calculates and records the Relative Feed Value (RFV) for every bale as it is being made.

**Patent Pending

RFV Dye Marker

NEW

The RFV Dye Marker adds an efficient and economical way to mark individual bales by RFV ranges, allowing operators to sort and create stacks according to hay quality.

Dye Marker Kit

The Dye Marker Kit can be added to the HayBoss G2 at any time, and is the first step in bale identification. The kit ties directly into the HayBoss system and marks the wet spots on each bale based on the operators inputs.

Large Square Balers

Maximizing your balers potential



AGCO Precision Hay Production Systems include a complete line of applicators to fit all large square balers, regardless of manufacturer. Each applicator model is made specifically for the baler for which it has been ordered, making installation and operation as easy and efficient as possible. Applicator kits consist of the following components and choice of control.



Tank and Frames

LARGE SQUARE BALERS

The tank system is integrated into the baler's frame for correct weight distribution and maximizing the carrying capacity. The system for large square balers includes a 110 gallon tank, enough preservative to cover 200-400 tons of hay.

Pumping Systems

HayBoss G2 AUTOMATIC SYSTEMS

The HayBoss G2 is equipped with 3 pumps and built-in flowmeter. The pumps are plumbed in parallel so when the hay moisture calls for additional application, a second and third pump can quickly start up, turning on additional tips. And, when the hay moisture goes down, pumps are immediately shut down, so there is no waste of extra product.

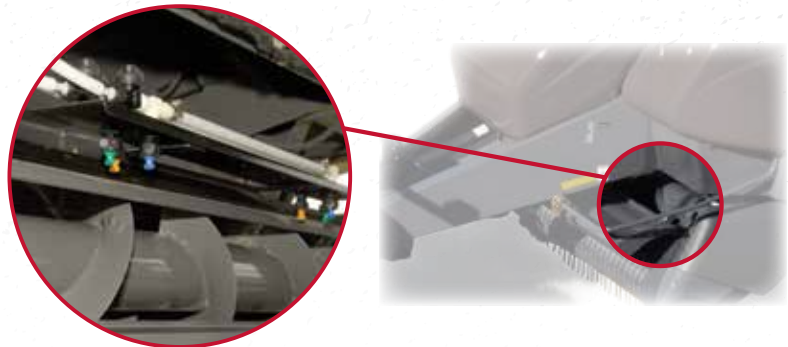


STANDARD ELECTRONIC SYSTEMS

The standard electronic system is equipped with a single pump and gauge. The pumping rate is increased or decreased by manually turning a dial on a control box in the cab that changes pump speed, therefore varying the output of preservative.

Spray Devices

Consistent preservative coverage through the hay is critical. Placement of the nozzles in the pick-up area has been accomplished by carefully locating a device to hold those spray tips in the best location to assure complete coverage of the hay being treated. Each baler model has a specific device for mounting the nozzles.





Control Systems for Large Square Balers

The most important decision is what type of control system you will require.

There are two types of controls: • HayBoss G2 • Electronic Control

The HayBoss G2 control system is the product of choice for most large square baler applications.

The control ties into the dual star wheel moisture sensor, picking up the signal as the bale is formed. It is set to start applying preservative when the moisture of the crop reaches a set minimum point for treatment (usually around 16%). As the hay moisture increases, the rate of application increases. If hay moistures go down, the application rate follows. Every three seconds, there is an adjustment in rate following the trend in moisture through the field.

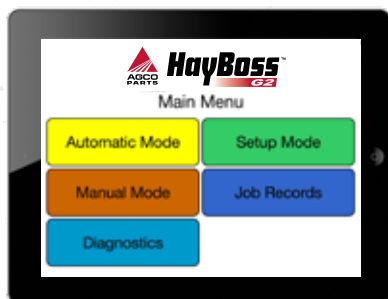
The HayBoss G2 also watches the rate at which the hay is being baled.

As bale formation increases in rate, the application rate increases. An adjustment is made every 5 seconds based on the speed of baling. With the combination of quick updates on moisture and on the baling rate, application is precise, not too much and not too little. All the bales will receive the appropriate amount of preservative and the cost of treatment is kept in check.

The HayBoss G2 can be controlled with AGCO's C1000 monitor, iPad® or iPad mini™, or other ISOBUS compatible monitor.



AGCO C1000 Monitor
(3 1/2" x 6") color normally
supplied with an AGCO baler



iPad or iPad mini



Compatible with most
ISOBUS Monitors

Bale Information at your Fingertips

Track bale moisture and application rates on the move.

Complete ISOBUS Integration

The HayBoss G2 is capable of integrating into the baler ISOBUS, and can display pertinent moisture and application information right on the baler work screen. This feature gives the operator the option of running the baler and HayBoss G2 system from one display, eliminating the need for multiple monitors in the cab.



HayBoss G2 Equipped with C1000 or iPad.

AUTOMATIC MODE: The main operating screen. Moisture readings are averaged every three seconds, baling rate is measured every 5 seconds. In this mode, the controller automatically matches application rate with these two parameters. The product is applied in a precise way.

MANUAL MODE: Allows the operator to override the automatic features and apply as he chooses.

DIAGNOSTICS: Gives the operator a chance to check pump outputs and voltage inputs.

SET-UP: The moisture points for beginning and kicking up application are adjusted here. The application rate per ton is set at these points. Bale weight estimates are entered if the baler is not equipped with a scale.



JOB RECORDS: By field the system tracks:

1. Tons baled
2. Average and high moisture
3. Product used
4. Time and date of baling
5. Bale weight*

There is bale by bale detail to see information for each bale.

** Large Square Baler only. Baler must be equipped with a Bale Weight Kit*

Expanded Precision from the HayBoss G2 for Large Square Balers.

The HayBoss G2 system is centrally controlled by the G2DCP (G2 Dual Channel Processor), located on the back of the baler's twine box. The G2DCP will:

- Keep job records by individual bales
- Provide downloads of job records and job details
- Power and supply information to the HayBoss G2 Tagger
- Control the dye spray marker
- Control the yield monitor
- Pick up the signal from an AGCO scale kit and use it to adjust preservative application more precisely, write it to the tag and insert it into a file for yield mapping
- Drives the RFV Calculator to display and record Relative Feed Value of each bale



Large Square Baler Data Collection



The job record is an important management tool for the precision production of hay.

After completing a field, the baler operator can call up the job and view the totals for the field and the records for each individual bale. The job record shows the field name, average and high moisture, preservative used per bale, bale weight (either picked up from the AGCO scale or the estimate entered if the baler is not so equipped) the time and date of baling.

Using a thumb drive to secure this data from the G2DCP (G2 Dual Channel Processor), this information can be downloaded into a MS Excel spreadsheet to analyze moisture and weight trends, verify the proper application, and view the productivity of the baler.

FIELD TOTAL	AVG MC	HI MC	# USED	BALES	TONS	DATE			
D-7	15	34	268	93	74	26 OCT	2013		
INDIVIDUAL BALE DATA-----	-----	-----	-----	-----	-----	-----	-----	-----	-----
FIELD	AVG MC	HI MC	#/BALE	BALE ID	BALE WT	DATE	TIME	LATITUDE	LONGITUDE
D-7	7	15	0.9	5353602563	1590	26 OCT	18:46	44.9472705	-92.7115307
D-7	9	12	0	5353602564	1605	26 OCT	18:47	44.9472598	-92.7123852
D-7	13	17	0.2	5353602565	1680	26 OCT	18:50	44.9472454	-92.7140442
D-7	14	19	0.4	5353602566	1690	26 OCT	18:51	44.9472198	-92.7134845
D-7	17	23	2.7	5353602567	1780	26 OCT	18:53	44.9472136	-92.711558
D-7	16	20	2.3	5353602568	1730	26 OCT	18:54	44.9472231	-92.7081081
D-7	15	21	1.1	5353602569	1705	26 OCT	18:56	44.945639	-92.7058133
D-7	12	22	1.5	5353602570	1620	26 OCT	18:58	44.9443878	-92.7058344

Expanded feature for HayBoss G2 equipped with iPad.



For operators that are using their own iPad to control the HayBoss G2 on a large square baler, the job records can be stored and then exported wirelessly with the iPad.

Once the operator has completed baling and is ready to view and export the job record, they simply select which job to export and where to send the file. The job record can be sent as an email file, or converted to a Microsoft Excel file, etc.

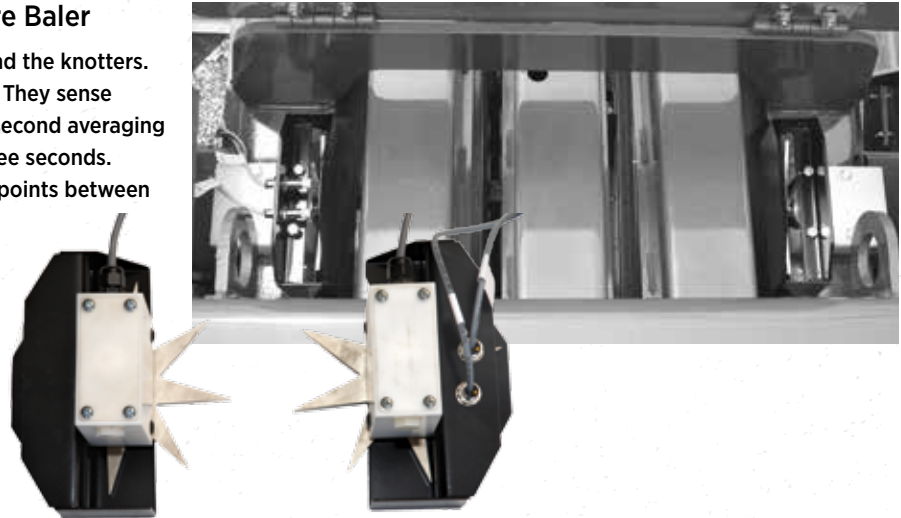
This new feature is exclusive only to iPads, and eliminates the need to download and manually transfer files from the G2DCP via a USB drive.

Precision in the production of baled hay is driven primarily by the moisture content at baling.

Our unique set of moisture sensors accurately measure the moisture of the crop as it is baled.

Moisture Sensing for Large Square Baler

Two star wheels are located right behind the knotters. One is positive and the other negative. They sense between the two wheels 28 times per second averaging and display moisture content every three seconds. The readings are accurate within +/- 2 points between 8% and 70%. No matter what the crop, the moisture readings will give the baler operator an accurate reading of the crop during baling.



HT600A Moisture Kit

For those growers, operators, and especially exporters of hay that require precise moisture monitoring, but not the need for a complete preservative system, the HT600A fulfills that need.

Consisting of the same G2DCP and accurate star wheel sensors as found on the HayBoss G2 applicator, the HT600A has the ability to read moisture, tonnage, and calculate individual job records on the go.

The G2 Tagger, Dye Marker, and G2 RFV Calculator are all compatible with the HT600A Moisture Kit, and can easily be expanded to become a full HayBoss G2 applicator. The HT600A Moisture Kit is an extremely accurate and capable moisture system compared to other competitive moisture kits and systems.



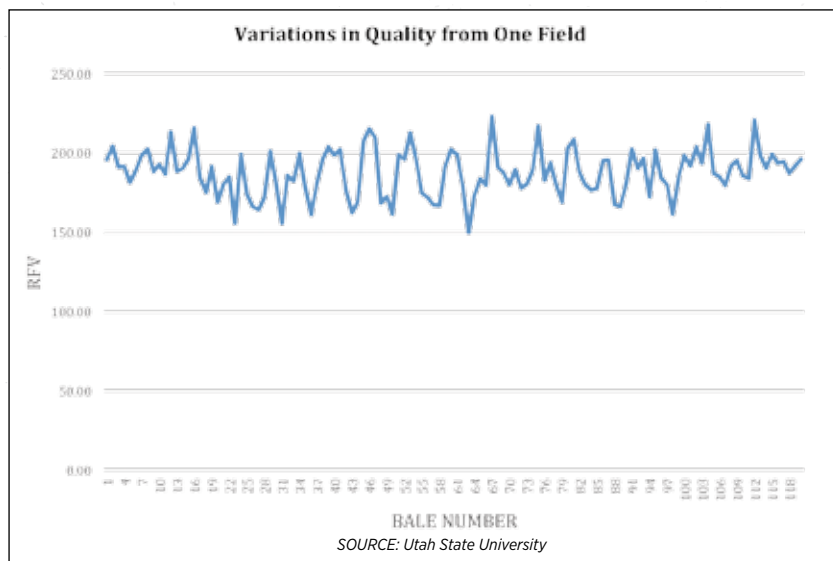
Variations in moisture and hay quality are major challenges for today's hay producer.

The feeder of the hay needs to identify hay quality to mix accurate and balanced rations.

Precision components from AGCO arm you with the ability to monitor, record, and manage variations in moisture and quality in the production of hay and alfalfa. That gives you the accuracy you need to become efficient and precise in today's challenging market.

Be more certain about Alfalfa's uncertainty

The importance of alfalfa in cattle and dairy rations cannot be understated. But this high-value crop can yield more uncertainty than any other ingredient in the ration, because changes of Relative Feed Value (RFV) can vary significantly. It's not uncommon to see changes of 30 to 40 points in RFV within the same field. These wide point swings can affect everything from how the hay is marketed to how it is being fed. Having an accurate way to record and track these changes is critical.



How the HayBoss G2 RFV Calculator Works



The system relies on the principle that most of the feed value is in the leaves of the plant. That means the higher the leaf content, the higher the density and quality of the bale.

The hay grower takes a windrow sample of the hay just before or after it is cut, sends it to a lab, and enters that value into the HayBoss G2 system when they're ready to bale.

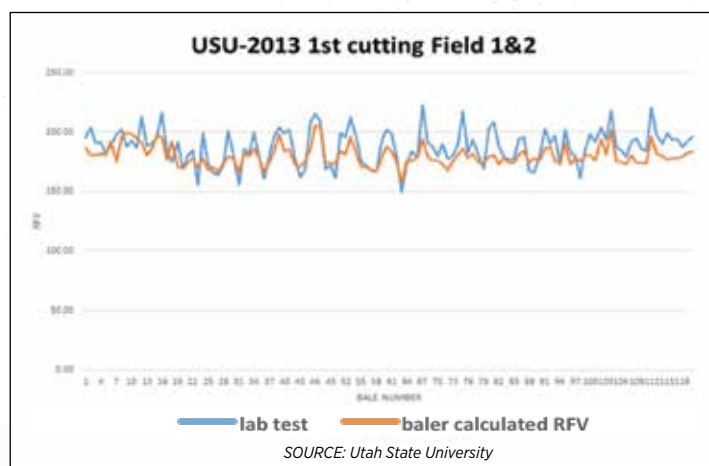
As the baler operates, the Star Wheel Sensors take accurate moisture readings. The scale measures the weight and the G2 Dual Channel Processor (G2DCP) calculates the dry matter density and RFV for each bale. The RFV is displayed on the baler screen as the baler is running, and is stored into the downloadable job records, which can be written on a tag with the HayBoss G2 Tagger.

Accuracy

HayBoss G2 RFV Calculator studies have been conducted on multiple farms across multiple states. The results verify the accuracy of the system as compared to the conventional method of coring bales to determine feed value, as shown on the graph.

Additional studies can be found at:
www.harvesttec.com/agco-relative-feed-value

SOURCE: Utah State University



Accountability

As the RFV is calculated and compiled to the job record, it is important to identify how the values of quality can impact the hay production process. This is especially significant for dairy producers. Sorting and feeding hay according to quality allows them to make accurate ration adjustments, which keeps milk production consistent. The potential cost savings from accurately feeding what the cow needs increases the dairy producers bottom line.

For producers or brokers involved with selling hay, the ability to sort, stack, and ship by RFV can greatly improve their consistency to make sure each customer gets the quality level of hay they expect. From the field to the buyer to the feeder, the best way to use this new precision RFV is to affix the information to each bale, for the entire life of the bale. It can all be done using the HayBoss G2 Tagger.

"On one field, we split the core samples from 50 bales and sent them to two different labs. The RFV levels came back from the two labs 4% apart, which isn't bad. The HayBoss G2 RFV calculated values were right in the middle, only 2% difference from either lab."

Don Leonard
Brush, CO

Requirements to Measure RFV

- HayBoss G2 or HT600A Moisture Only System
- AGCO Bale Weight Kit or Accumulator Weight Kit
- HayBoss G2 RFV Calculator Software
- ISO 11783 compatible monitor or iPad



Return on Investment using the HayBoss G2 RFV Calculator

Precision farming and its monetary benefits has been in the industry for a number of years, but precision in hay production is relatively new. To show an example of what level of payback can be attained by adding AGCO precision components to your baling operation and sorting hay by RFV, follow along below.

The Dairy Farm

Farm Size: 800 acres / Crops: 300 acres alfalfa / Number of Head: 250

EQUIPMENT COSTS:

HayBoss G2 Applicator	\$7,920
G2 Tagger Bundle	\$8,256
G2 RFV Calculator	\$500
Bale Weight Kit	\$2,400

Total \$19,076

Annual Equipment Cost over 5 Years: . . \$3,815

Annual Cost in G2 Tags: \$1,722
(2,570 tags x \$0.67 ea)

Annual Cost of Pre-Sampling: \$576
(8 cores x 4 cuttings x \$18)

Total Annual Cost \$6,113

A dairy farm invests in HayBoss G2 precision equipment to allow them to sort and feed according to RFV. With an annual cost of \$3,815 in equipment for the first 5 years, \$1,722 annually in tags, and ranging around \$576 per year in pre-harvest sampling costs, the dairy farm is able to sort each bale by RFV, and adjust rations and feed much more accurately, giving the dairy a dramatic increase in milk output and profitability.

ANNUAL RETURN WITH PRECISION

Incremental Lbs/Milk/Day per Head4	Savings by eliminating core lab tests . . . \$882 (1 out of 50 bales x \$18)
<i>SOURCE: Utah State University</i>	
Total lbs/Milk/Day (250 head):1000	Total Annual Profit \$73,882
Value per lb of Milk: \$0.20	(\$200 x 365 days) + \$882
Total value of lbs/Milk/Day \$200	Year 1 Total Return on Investment . . . \$67,769 (\$73,882 - \$6,113 in equipment)

The Hay Producer

Farm Size: 300 acres / Crops: Alfalfa / Tons per Acre per Cutting: 1.5 / Total Tons per Cutting: 450

EQUIPMENT COSTS:

HayBoss G2 Applicator	\$7,920
G2 Tagger Bundle	\$8,256
G2 RFV Calculator	\$500
Bale Weight Kit	\$2,400

Total \$19,076

Annual Equipment Cost over 5 Years: . . \$3,815

Annual Cost in G2 Tags: \$1,722
(2,570 tags x \$0.67 ea)

Annual Cost of Pre-Sampling: \$576
(8 cores x 4 cuttings x \$18)

Total Annual Cost \$6,113

A commercial hay producer has customers that want more consistent quality hay than what he has made in the past, so the producer adds HayBoss G2 precision equipment to his operation to allow him to accurately track and manage variations between fields and cuttings.

The bales can now be sorted by quality and this improves the consistency of what he is selling to each customer, allowing the producer to sell his hay at a \$10 premium per ton.

ANNUAL RETURN WITH PRECISION

Savings by eliminating core lab tests (1 out of 50 bales x \$18)	\$882
Total Annual Profit (1,500 tons x \$10/ton premium)	\$15,000
Year 1 Total Return on Investment (\$15,000 + \$882) - \$6,113 in equipment)	\$9,769

Every bale is different

Knowing moisture, RFV, and other crucial information about your bales is key to a successful baling operation, and being able to sort, manage, and track that information for each one of those bales enables you to take your operation to the next level. By knowing which bales to combine in certain stacks, which ones to sell, or which ones to feed first or mix with what rations, these two Individual Bale Identification Systems from AGCO can help you make those vital decisions.

Dye Spray Marker Kit

Set your moisture limit and the Dye Spray Marker will indicate which bales of hay come close to or exceed that limit. It plugs into the HayBoss G2DCP and sprays red, food-grade dye on the bales when the hay moisture is above your set limit. If just a flake or two of the bale is wet, the red mark will be a short stripe on the side of the bale. If more of the bale is over your moisture limit, its entire side will be marked. Now you can easily see the problem bales and can set them aside when you pick them up later for stacking.



G2 RFV Dye Spray Marker Kit

When an operator adds the RFV Calculator to their baling operation, they need to be able to identify the RFV of the actual bales themselves. An economical way to identify the RFV range of the bale is the G2 RFV Dye Marker kit. Consisting of a 5-gallon tank, 3 pumps and separate spray nozzles, the operator inputs the RFV ranges that they want to identify into the HayBoss G2 system. The kit then sprays each bale with one, two, or three stripes of food-grade dye, showing the operator the RFV range for that bale. This is a valuable tool to begin identifying individual bales for sorting, stacking, feeding, or selling.

The most advanced bale identification system available

The HayBoss G2 Tagger takes all the information gathered for each individual bale and physically puts that information on the bale. The essential information for that bale can be read at anytime from sorting, hauling, to feeding.

G2 TAGGER

The HayBoss G2 Tagger mounts above the outside twine on top of the bale chute. When signaled, two feet extend and lift the twine, wrapping a vinyl Radio Frequency Identification (RFID) tag around the twine as it is released.

STAR WHEEL MOISTURE AND BALE RATE SENSORS

Two 7" star wheels are located directly behind the knotters. Moisture is measured by conductivity between the wheels while the rate of baling is monitored by their revolutions. Readings are accurate between 7% to 70% moisture.



G2DCP

The key component of the product line is the G2 Dual Channel Processor, or G2DCP. It gathers and stores all crucial bale information and creates a unique profile for every bale.



IN-CAB MONITOR

The HayBoss G2 system is controlled in the tractor's cab by the C1000 display or iPad. In addition to all baler functions, the operator has immediate access to: moisture; rate of baling; bale weight; preservative used; RFV; and when the tag is applied. And it's all displayed through one monitor.



BALER ANTENNA

Mounted on the back of the bale chamber, the Baler Antenna writes all the information the HayBoss G2 gathers for each individual bale, sending it to the G2 tag as it passes by on the bale.



The tag that's more than just a tag.



The HayBoss G2 tag is a permanent vinyl tag wrapped around the twine on each bale. Each tag encases a Radio Frequency Identification (RFID) chip. As the tag passes under that baler antenna, a signal is radioed to the tag's chip, permanently saving that bale's specific information.

Each bale can now be identified by the following criteria:

- Bale identification number
- Field name
- Date and time of baling
- Average and High moisture of the bale
- Amount of AGCO Hay Preservative applied
- Weight of bale
- Relative Feed Value (RFV) and Total Digestible Nutrients (TDN)
- GPS data



Reading the HayBoss G2 Tags

The information on the G2 tag is read with a scanning device. As the bale is handled or fed, the data on the tag provides the necessary information to best manage and feed the hay with the utmost precision. Because of its advanced technology, the tag does not even have to be seen. Scanning equipment detects it and displays it to the operators.

HAND SCANNING

The tags can be read with the hand-held scanner up to 10 feet away. The keypad allows the operator to navigate through the bale information while feeding or handling the bale.



SCANNING WHILE RETRIEVING BALES

With the scanner mounted on the retriever, the bales can be read up to 20 feet away. As the bale is approached, the operator can accept or reject the bale based on RFV or other criteria. As the bales are stacked, a record of the group is recorded, listing its number of bales and the total tonnage in the stack.



SCANNING WITH A HAY LOADER

Later, when the hay is handled with a loader, the scanner can be mounted on the loader to provide information for sorting and controlling different groups of bales. When a stack is made or a truck is loaded, the list of bales is recorded as a group.



The scanned information can be downloaded to a USB drive and transferred to a computer and printed or emailed directly to the end user. This gives the producer a list of bales that are in a stack, or loaded on a truck.

PORTAL SCANNER

Large operations can benefit from using a portal scanner. It allows a fully-loaded truck to drive under a portal equipped with four antennas, capturing each bale and creating a detailed record of the whole load.



HayBoss G2 System Overview

A Tank

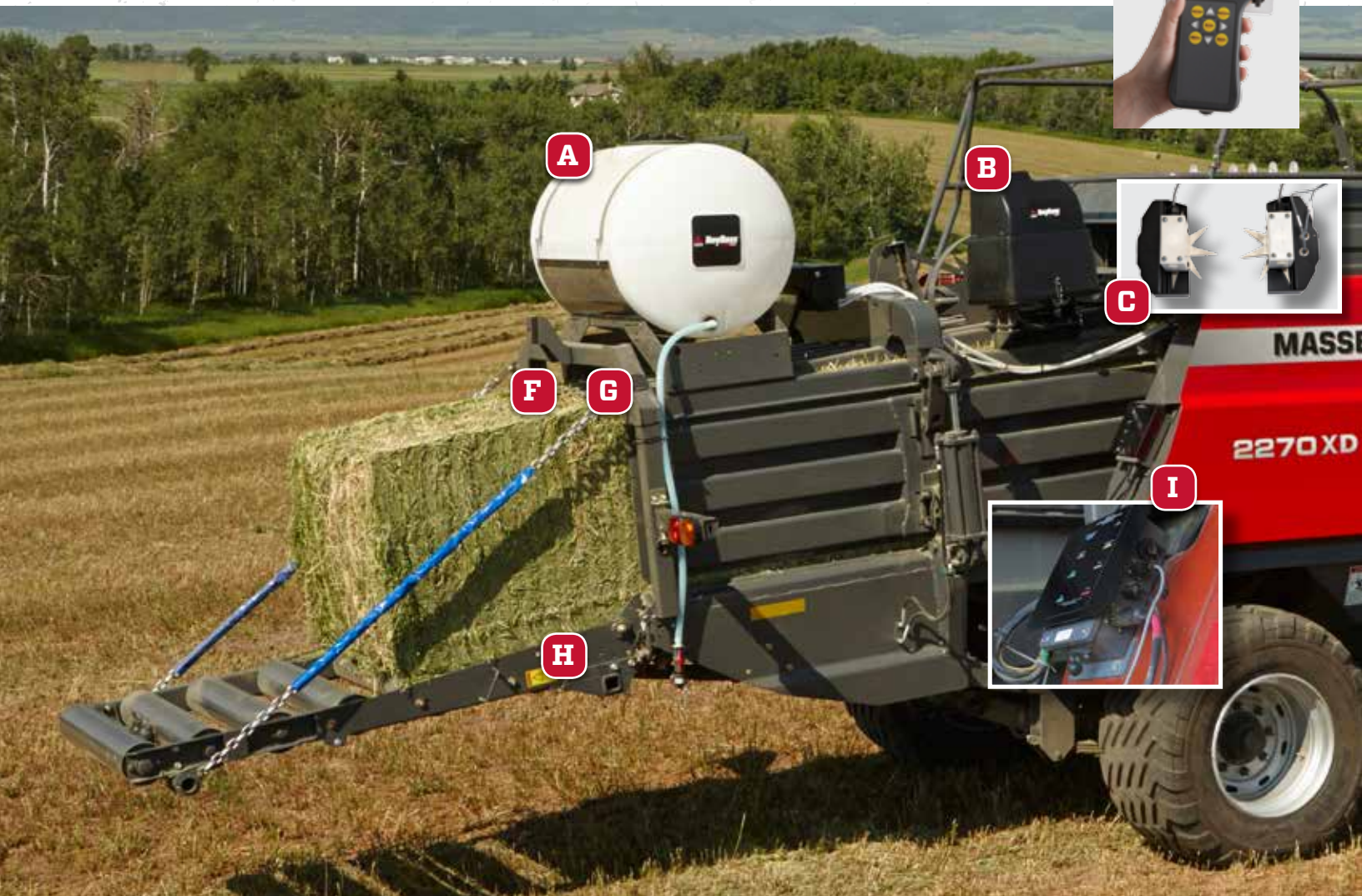
Applicators are fitted with either 110-gallon (large square baler) or 55-gallon (round and small square baler) tanks for storing AGCO Buffered Acid Hay Preservative while in the field.

B G2 Tagger *(see pg 16 for more details)*

The optional G2 Tagger places an RFID tag on each individual bale that show specific information such as:

- Bale ID Number
- Date and Time of Baling
- Amount of AGCO Preservative Applied
- GPS Data
- Relative Feed Value (RFV) and Total Digestible Nutrients (TDN)
- Field Name
- Average and High Moisture of the Bale
- Weight of Bale

The tag is attached to the twine and read with a handheld scanner.



F RFV Dye Marker *(See pg 15 for more details)*

If the G2 RFV Calculator is added to the system, the RFV Dye Marker marks each bale with 1, 2, or 3 stripes, depending on its RFV range.

(Above example does not have this option)



G Dye Marker *(See pg 15 for more details)*

An effective way to mark wet bales, the Dye Marker sprays a red dye on the wet spots on each bale.

(Above example does not have this option)



C Moisture Sensors

Moisture sensors for automatic systems on large square and small square balers consist of two star wheel sensors that mount on the bale chute behind the knotters.

D Spray Shield

Spray shields and nozzles have been designed for each specific baler to ensure maximum and even coverage of the crop.

E Controls

The HayBoss G2 can be run through the C1000 display, and shows:

- Moisture content
- Application rates
- Total tons baled
- Speed of baling
- Volume used

You can also use an Apple iPad to control your HayBoss G2 Preservative Application System and accessories.



H Bale Weight Kit

The baler can be equipped with a Bale Weight Kit from AGCO, and provides accurate on-the-go weighing of each bale. The weights are added into the HayBoss G2 job records.

I G2DCP

The G2 Dual Channel Processor (G2DCP) is the main processing unit that controls the other modules and manages the entire system.

Benefits provided by precision components for Large Square Balers

Adding some of these precision components to their baler gives hay producers, operators, hay brokers, and feeders added benefits to improve the efficiency and accuracy of their respective operation. Such added benefits are: individual bale records; efficient sorting of bales; easier inventory control; accurate feeding and rationing; and advanced bale tracking software.



Precision in hay operations is different from the terms used in row crops or other methods of farming, and the idea of precision in hay operations is the management of variations in moisture and quality, not only on a day to day basis, but hour to hour as well.

Benefits for the Hay Producer

- Accurate moisture, weight, and Relative Feed Value (RFV) on the go
- Create consistent bale stacks when sorting bales by:
 - Moisture
 - RFV
 - Field location
 - Harvest date
- Accurate inventory control
- Quality control

Benefits for the Dairy Operator

- Detailed individual bale records by moisture, RFV, etc.
- Consistent quality of hay feed to herd
- Accurate rationing and feeding, giving increased milk output per head
- Increased profitability

Benefits for the Hay Broker

- Detailed individual bale records by moisture, RFV, etc., so you know what type and quality of hay you are buying, selling, loading, and shipping.
- Detailed bale records that can be printed or emailed to customers
- Accurate inventory control
- Accurate quality control

Small Square & Round Balers



AGCO Precision Hay Production Systems fit all round and small square balers. Each applicator model is made specifically for the baler for which it has been ordered, making installation and operation as easy and efficient as possible. Applicator kits consist of the following components and choice of control.

Preservative Tank

A 25 or 55-gallon tank carries enough preservative for 100-200 tons of hay.

SMALL SQUARE BALERS



ROUND BALERS



Pumping Systems

HAYBOSS AUTOMATIC SYSTEMS

The HayBoss 300 Series Applicator is equipped with a single, constant pressure pump with a pulsing solenoid and flowmeter that controls the rate of application. The HayBoss G2 600 Series system has 3 pumps and flowmeter, and will power the individual pumps accordingly based on the application rate needed. Both of these automatic systems work on the concept that as the hay moisture fluctuates up and down, the system reacts to the changing conditions and applies the correct amount of preservative, so there isn't an under application or waste of extra product.

STANDARD ELECTRONIC SYSTEMS

The standard electronic system is equipped with a single pump and gauge. The pumping rate is increased or decreased by manually turning a dial on a control box in the cab that changes pump speed, therefore varying the output of preservative.

Spray Devices

Consistent preservative coverage through the hay is critical. Placement of the nozzles in the pick-up area has been accomplished by carefully locating a device to hold those spray tips in the best location to assure complete coverage of the hay being treated. Each baler model has a specific device for mounting the nozzles.



Small Square & Round Balers Control Systems

Round and Small Square baler operators have three control options for their applicator on their baler, giving them a wide variety of options for their operation.

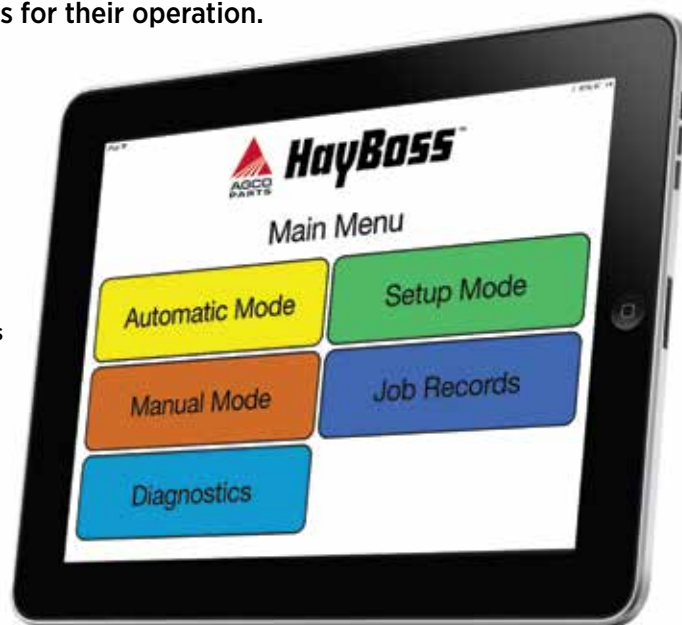
- HayBoss G2 Automatic Applicator
- HayBoss 300 Series Automatic Applicator
- Electronic Applicator

HayBoss 300 Series Automatic Applicator

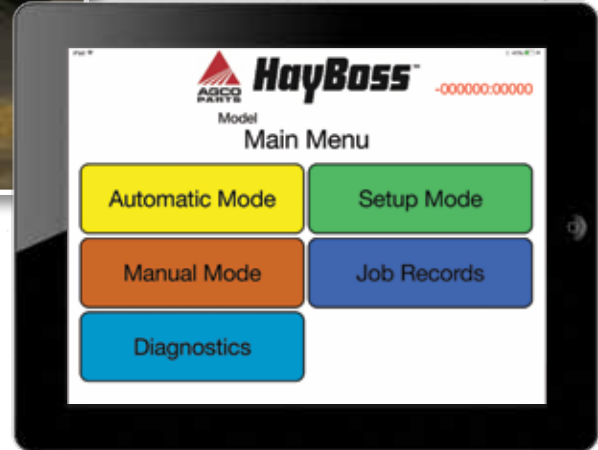
The new HayBoss 300 Series automatic applicator is the product of choice for most round and small square baler operators, and has been designed for the customer who wants the ability to apply hay preservative automatically based on changing conditions effectively and efficiently.

Consisting of a redesigned and compact processor, and a single bypass pump that supplies constant pressure to a pulsing solenoid, it is an improvement in efficiency and response time for applying preservative. The operator has the option of running the applicator through their own iPad* or iPad mini via Bluetooth for a clear, colorful display.

The HayBoss 300 Series automatic system is able to store up to 60 job records by field name with total tons baled, average high moisture, date and time, and amount of preservative used.



The HayBoss 300 Series Automatic Applicator can be controlled with an iPad or iPad mini.



HayBoss G2 600 Series Automatic Applicator

The HayBoss G2 Automatic applicator is the control system for the operators that need complete control of their operation and detailed information on each bale that is being made.

For round balers, the HayBoss G2 takes the moisture readings from the two discs in the bale chamber as the bale is being formed, and applies preservative based on the changing conditions. A sensor on the bale door helps calculate tonnage, identifies the individual bales, and records individual bale information into the job records.

On small square balers, the HayBoss G2 takes moisture and tonnage readings from the starwheel sensors, and also comes with a stroke counter and an end of bale sensor to accurately measure the number of strokes per bale and record the individual baler information into the job records as well.

The HayBoss G2 applicator for round balers and small square balers has the same job record capabilities of the large square baler, with the ability to store up to 300 job records and 33,000 individual bales in those records.

The HayBoss G2 600 Series Automatic Applicator can be controlled with an iPad or iPad mini, or can be displayed through the tractor ISOBUS display.



AGCO C1000 Monitor

(3 1/2" x 6") color normally supplied with an AGCO baler

Standard Electronic Cab Control

For small-scale operations, or for customers looking for a more economically priced applicator, an Electronic Applicator is an option. Available on all baler models, and sizes, the system is controlled by a control box located in the cab. The dial on the control box can be adjusted for correct preservative output.

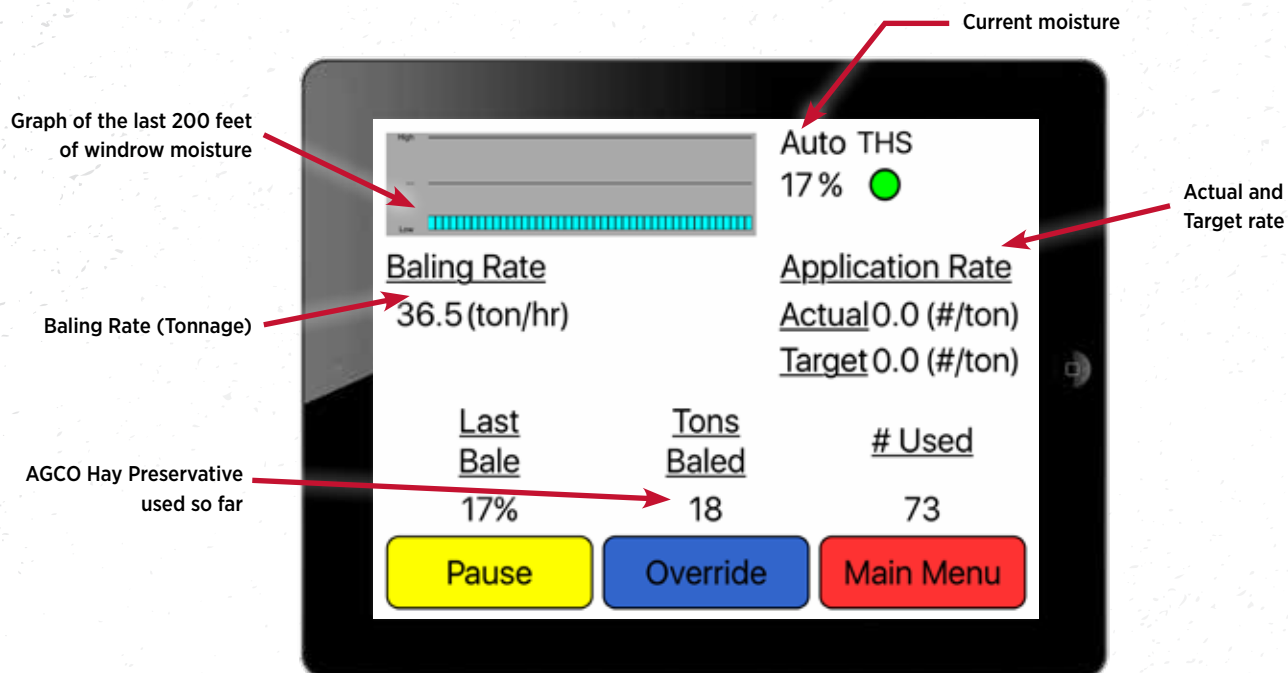
THIS KIT IS AVAILABLE AS:

- 25 and 55-gallon applicators for round and small square balers
- 110-gallon applicators for large square balers



Small Square & Round Balers Data Collection

iPad display with HayBoss 300 Series Applicators for Round and Small Square Balers.



JOB RECORDS

BY FIELD THE SYSTEM TRACKS:

1. Tons baled
2. Average and high moisture
3. Product used
4. Time and date of baling

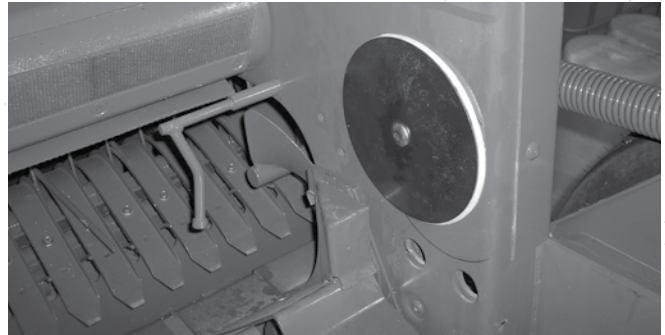
There is bale by bale detail to see information for each bale. System can store up to 60 job records.



Small Square & Round Balers Moisture Sensors

On Large Round Balers

Two 8 inch discs are located, one on each side wall of the baler to sense the hay in between. One disc is positive and one negative, sensing 28 times per second and averaging moisture content every three seconds. The readings are accurate +/- 2 points between 8% and 60% moisture no matter what the crop.



On Small Square Balers

Two star wheels are located on the bottom of the bale chute. One is positive and the other negative. They sense between the two wheels 28 times per second averaging and displaying moisture content every three seconds. The readings are accurate within +/- 2 points between 8% and 32% moisture. No matter what the crop, the moisture readings will give the baler operator an accurate reading of the crop during baling.





Accessories



**ELECTRONIC SHUT-OFF
EYE KIT**

PART NO. HT474A

This optional indicator, which mounts at the hay pickup, starts and stops applicator operation in response to hay movement through the pickup. The result is reduced consumption of AGCO Hay Preservative while making the turn into the next windrow.



**STANDARD ELECTRONIC
TRANSFER PUMPS**

12-VOLT PART NO. HT9212

110-VOLT PART NO. HT9215

These standard output models will transfer preservative at a rate of 4-gallons per minute. The economical choice when transferring AGCO Hay Preservative from the 13 or 50-gallon sized containers.



**HIGH OUTPUT ELECTRIC
TRANSFER PUMP**

PART NO. HT9214

For a rapid transfer rate of 14-gallons per minute, this 12-volt pump will get the job done quickly. This transfer pump is a must when transferring AGCO Hay Preservative from the 200-gallon tote to the 110-gallon tank on your large square baler.



**APPLICATOR SHUT-OFF
SWITCH**

PART NO. HT475

The floor-mounted applicator shut-off switch enables the operator to easily stop and start the applicator with his foot.

Precision Accessories for the HayBoss G2 System

BALE WEIGHT KIT

Your large square baler can now be equipped with a bale weight kit available from AGCO. Used with the G2 Tagger, the system will write the average weight of the last three bales to the tag, giving the operator a close estimate of the actual weight as they scan the tag. With this kit, the bale weight will be recorded into the job records, instead of an input weight given by the operator. The bale weight kit is a requirement to run the HayBoss G2 RFV Calculator, as the RFV is a calculated measure of moisture and weight.

GPS AND YIELD MAPPING

Take your productivity to the highest level with the additional GPS package for your large square baler. By incorporating the GPS into the HayBoss G2 system and Tagger, the coordinates of the exact location the bale was tied off in the field will be written to the tag, and saved in the job records. With this technology, the producer has the knowledge needed to maximize productivity and plan for future yields.



Applicator, Preservative, and Accessories Parts List

APPLICATOR PART NUMBERS

LARGE SQUARE BALER

HT6964518B	HayBoss G2 for MF 2150, 2170, 2190, 2250, 2270, 2270 XD 2290
HT6964519B	HayBoss G2 for MF 2150, 2170, 2190, 2250, 2270, 2270 XD 2290 with Roto-Cutter
HT6964527B	HayBoss G2 for 2150, 2250 with Packer-Cutter
HT6964530B	HayBoss G2 for 2170 XD, 2270 XD, 2270 XD Pro-Cut with Roto-Cutter
HT6964542B	HayBoss G2 for 2250, 2270 Pro-Cut
HT4914518	Electronic Kit for MF 2150, 2170, 2190, 2250, 2270, 2270 XD 2290
HT4914519	Electronic Kit for MF 2150, 2170, 2190, 2250, 2270, 2270 XD 2290 with Roto-Cutter
HT4914527	Electronic Kit for 2150, 2250 with Packer-Cutter
HT4914530	Electronic Kit for 2170 XD, 2270 XD, 2270 XD Pro-Cut with Roto-Cutter
HT4914542	Electronic Kit for 2250, 2270 Pro-Cut

ROUND BALER

HT6494524B	HayBoss G2 for 2946, 2946A, 2956, 2956A
HT3494524C	HayBoss 300 for 2946, 2946A, 2956, 2956A
HT4484524	Electronic Kit for 2946, 2946A, 2956, 2956A

SMALL SQUARE BALER

HT6444416B	HayBoss G2 for 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842
HT6504502B	HayBoss G2 for 1843N, 1843S
HT6504485B	HayBoss G2 for 1844N, 1844S
HT3444416C	HayBoss 300 for 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842
HT3504502B	HayBoss 300 for 1843N, 1843S
HT3504485B	HayBoss 300 for 1844N, 1843S
HT4344416	Electronic Kit for 1835, 1836, 1837, 1838, 1839, 1840, 1841, 1842
HT4484502	Electronic Kit for 1843N, 1843S
HT4484485	Electronic Kit for 1844N, 1844S

NOTE: THIS IS A PARTIAL LIST

For a complete list of applicators that fit most popular brands and models of balers, please see your AGCO dealer.

AGCO HAY PRESERVATIVE PART NUMBERS

LARGE SQUARE BALER (Part numbers for US and CANADA)

US: HT15DR*	13-Gallon Drum of AGCO Hay Preservative (120 lbs)
CAN: HT15DRC	
US: HT55DR*	50-Gallon Drum of AGCO Hay Preservative (450 lbs)
CAN: HT55DRC	
US: HT55DR-PQ*	4, 50-Gallon Drums of AGCO Hay Preservative on a Pallet (1,800 lbs)
CAN: HT55DR-PQC	
US: HT200MB	200-Gallon Tote of AGCO Hay Preservative (1,800 lbs)
CAN: n/a	
US: HT270MB	270-Gallon Tote of AGCO Hay Preservative (2,380 lbs)
CAN: HT270MBC	

*Not available in California

HAYBOSS G2 PRECISION ACCESSORIES

LARGE SQUARE BALER

HT850	HayBoss G2 Tagger
HT860	HayBoss G2 Bale Scanner
HT852	G2 Tagger, Scanner, 1-Roll of Tags Combo Kit
HT12-0851A	1-Roll of RFID Tags
HT12-0853A	3-Rolls of RFID Tags
HT12-0856A	6-Rolls of RFID Tags
HT800RFV	RFV Calculator Software
HT845RFV	RFV Calculator Dye Marker

ACCESSORIES

HT474A	Shut-Off Eyes
HT9212	12v Transfer Pump (4-gal/minute)
HT9214	12v High-Output Transfer Pump (14-gal/minute)
H8-FX2000	Combination Hand-Held and In-Chamber Moisture Tester
HT840	Dye Marker Kit
HT4672A	400T Series iPad Conversion Kit (bluetooth receiver)
HT6672A	600 Series iPad Conversion Kit (bluetooth receiver)
H30-2670DK	Field Ready Display Kit consisting of iPad mini 2, Casing, Mount, and Charger
HT2012MK	Mounting Kit Only consisting of Casing for iPad mini 2, Mount, and Charger



Hay Preservative Applicators & Precision Components for all Large Square, Round and Small Square Balers