



HayBoss™

G2

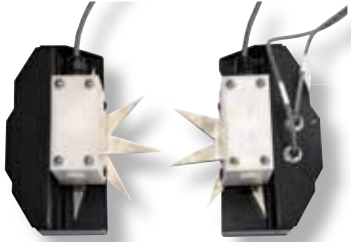
Individual Bale Identification System



Precision Hay Production Technology

Key components of the HayBoss G2™ Bale Identification System

TAGGER The HayBoss G2 tagger mounts above the outside twine on top of the bale chute. When signaled, two feet extend down lifting the twine at which point a vinyl G2 tag is wrapped around the twine as it is released..



STAR WHEEL MOISTURE & BALE RATE SENSORS Two 7" star wheels are located right behind the baler's knotters. Moisture is measured by conductivity between the wheels and the rate of baling is monitored by the revolutions of the wheels. Readings are accurate between 7% and 70% moisture.



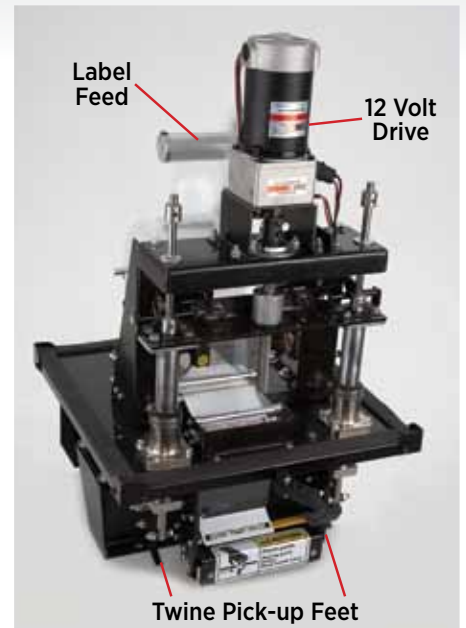
G2 PIP The key component of the product line is the G2 Precision Information Processor, or G2 PIP. The G2 PIP stores bale information to create a unique profile for every bale made. The star wheel moisture and bale rate sensors send the information to the G2 PIP.

IN-CAB MONITOR The HayBoss G2 system is controlled by an in-cab touch panel monitor. The operator will always see the current moisture, average moisture of the last bale, rate of baling, indication that the tag has been applied, actual bale weight if the baler is equipped with the AGCO bale scale, and the amount of AGCO Hay Preservative applied.



BALER ANTENNA Mounted on the back of the bale chamber, the antenna will write all the information that the HayBoss G2 system gathers from each individual bale to the G2 tag that the G2 tagger puts on the bale itself.

THE G2 TAG A permanent vinyl tag is wrapped around the twine. Each tag encases a Radio Frequency Identification (RFID) chip with memory. As the tag passes under the baler antenna, a signal is radioed to the tag writing that bale's specific information permanently to the tag.



US patent: 7,621,118; 7,415,932/482



Each bale is identified by the following criteria.

- Bale identification number
- Field name
- Date and time of baling
- Average moisture of the bale
- High moisture of the bale
- Amount of AGCO Hay Preservative applied
- Average weight of the bale
- GPS Data

Benefits for Hay Producers

INDIVIDUAL BALE RECORDS When tagging bales in the field, the operator has the ability to scan and read individual bale data when retrieving the bales. When a bale with excess moisture is scanned in the field, it can be set aside to avoid damage to the stack.

SORTING BALES

One of the most valuable uses of the HayBoss G2 Individual Bale Identification System is in sorting bales. We all know it only takes a few wet bales to set a stack on fire. There is an alarm system on the scanner to alert the operator that a bale is wet so it can be set aside. By scanning tags on the bales when sorting, the producer can create stacks according to bale quality, moisture levels, or bale weights.

FIELD	AVG MOISTURE	HIGH MOISTURE	PRESERVATIVE	BALE NUMBER	BALE WEIGHT	DATE/TIME BALED
W20	16	27	4.1	2241	1420	8 AUG 09 00:42
W20	20	29	6.3	2242	1510	8 AUG 09 00:43
W20	24	30	7.6	2243	1590	8 AUG 09 00:45
W20	28	41	8.2	2244	1465	8 AUG 09 00:46
W20	23	28	6.8	2245	1525	8 AUG 09 00:47
W20	18	27	5.5	2246	1510	8 AUG 09 00:49
W20	19	25	5.8	2247	1435	8 AUG 09 00:51
W20	20	23	6.2	2248	1475	8 AUG 09 00:52
W20	21	30	6.8	2249	1515	8 AUG 09 00:54
W20	29	39	8.3	2250	1455	8 AUG 09 00:55
W20	18	27	5.6	2251	1470	8 AUG 09 00:57
W20	17	25	4.8	2252	1480	8 AUG 09 00:58

By sorting accordingly, you can easily decide on which bales to ship to customers that request a specific type of feed. The two highlighted bales in this job record shows an excessive amount of moisture, and could be bales a producer would want to separate from lower moisture bales.

BALE MANAGEMENT SOFTWARE

The Bale Management Software for the HayBoss G2 system is a simple program that is installed on a PC or laptop that will take inventory and quality control management to the next level. After the bales are tagged and scanned, the information about the scanned bales can be downloaded into the Bale Management Software program on your computer via a portable flash drive. Then the operator or grower can add additional information such as hay quality, cutting, location in the stacks, bale size, etc. to the job record. The program will also generate searchable, detailed inventory records, and also has the ability to create shipping invoices for the selling and transport of bales.

INVENTORY CONTROL

Any hay producing operation has different grades of hay stacked in different locations. Keeping track of how much of each quality of hay is in inventory is easy and precise with tagged bales. Scan bales as they are stacked and transfer that information to an office computer.

When the hay is shipped out or fed, it is scanned again, leading to an accurate inventory. Lists of bales can be emailed via an Excel spreadsheet to the dairy or broker and exporter ahead of a load being shipped.

Low moisture bales have been grouped. Preservative use and bale weight reflect lower quality.

Higher moisture premium bales are easily identified and can be sorted accordingly to help in inventory and shipping control.

FIELD	AVG MOISTURE	PRESERVATIVE	BALE NUMBER	WEIGHT	DATE/TIME BALED	HAY TYPE	CUTTING	QUALITY
VAN1	6	0	5353602307	1140	10 JUN 09 00:54	ALFALFA	2ND	DRY COW
VAN1	6	0.1	5353602317	1210	10 JUN 09 01:08	ALFALFA	2ND	DRY COW
VAN1	7	0	5353602299	1210	10 JUN 09 00:42	ALFALFA	2ND	DRY COW
VAN1	7	0	5353602300	1240	10 JUN 09 00:43	ALFALFA	2ND	DRY COW
VAN1	7	0	5353602301	1190	10 JUN 09 00:45	ALFALFA	2ND	DRY COW
VAN1	8	0	5353602306	1180	10 JUN 09 00:52	ALFALFA	2ND	DRY COW
VAN1	9	0	5353602308	1250	10 JUN 09 00:55	ALFALFA	2ND	DRY COW
VAN1	10	0.5	5353602309	1290	10 JUN 09 00:57	ALFALFA	2ND	DRY COW
VAN1	10	0.5	5353602316	1310	10 JUN 09 01:06	ALFALFA	2ND	DRY COW
VAN1	11	0.1	5353602305	1420	10 JUN 09 00:51	ALFALFA	2ND	DRY COW
VAN1	12	0.2	5353602310	1310	10 JUN 09 00:58	ALFALFA	2ND	DAIRY
VAN1	12	1.4	5353602315	1320	10 JUN 09 01:04	ALFALFA	2ND	DAIRY
VAN1	13	1	5353602303	1310	10 JUN 09 00:47	ALFALFA	2ND	DAIRY
VAN1	13	1.6	5353602304	1380	10 JUN 09 00:49	ALFALFA	2ND	DAIRY
VAN1	13	1.2	5353602318	1340	10 JUN 09 01:12	ALFALFA	2ND	DAIRY
VAN1	13	0.9	5353602319	1370	10 JUN 09 01:13	ALFALFA	2ND	DAIRY
VAN1	14	1.9	5353602314	1380	10 JUN 09 01:03	ALFALFA	2ND	DAIRY
VAN1	16	2.4	5353602302	1360	10 JUN 09 00:46	ALFALFA	2ND	DAIRY
VAN1	17	3.2	5353602312	1480	10 JUN 09 01:01	ALFALFA	2ND	DAIRY
VAN1	18	3.3	5353602311	1450	10 JUN 09 01:00	ALFALFA	2ND	DAIRY
VAN1	22	6	5353602313	1460	10 JUN 09 01:02	ALFALFA	2ND	DAIRY

Information added by "Bale Management Software"

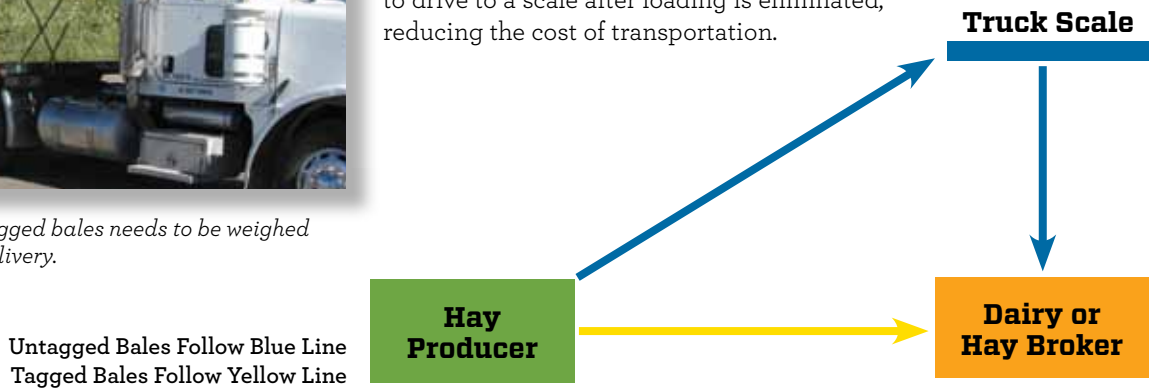




Truck load with untagged bales needs to be weighed before making the delivery.

TRUCKING EXPENSE

If the baler is equipped with the AGCO bale scale, when the bales are being loaded, the scanner keeps a running total of the load weight. This avoids overweight hauling and maximizes each truck load. By knowing the exact load weight the need to drive to a scale after loading is eliminated, reducing the cost of transportation.



Untagged Bales Follow Blue Line
Tagged Bales Follow Yellow Line

QUALITY CONTROL FOR EXPORT

When hay is shipped around the globe, the challenges of maintaining quality control are more critical. By tagging the bales that are going to be shipped overseas, the producer and broker have a record of the quality and weight going into the container as it is being loaded. When the container reaches its destination and the bales are scanned as they're offloaded, it will allow the end user to know exactly the quality of hay that was shipped.



Ingredients of the Ration	Baled Hay 13% Moisture	Baled Hay 18% Moisture
Alfalfa Hay (lbs Per Day Fed)	22 lbs	22 lbs
Crude Protein	18%	22%
ADF (Add Detergent Fiber)	36%	28%
NDF (Neutral Detergent Fiber)	44%	42%

Milk Production	Baled Hay 13% Moisture	Baled Hay 18% Moisture	Increase in Profitability
Pounds Per/Head, Per/Day	35.03 lbs	38.63 lbs	
Income Per/Head, Per/Day	\$ 5.60	\$ 6.18	\$ 0.58
Bale Weight	1230 lbs	1410 lbs	
Cows Fed Per/Bale	55.9	64.1	
Milk Production Per/Bale*	1958.5 lbs	2475.8 lbs	
Income Per/Bale at \$16.00/cwt	\$ 313.36	\$ 396.13	\$ 82.77

BENEFITS FOR FEEDERS

Tagging the bales provides the feeder with the precision to maintain consistency. Feeding a high quality bale one day and then going to a low quality dry bale the next can drop milk production 20% or more. For a closer look at how the G2 Tagger solves this problem, let's look at the numbers at left.

This is an example of the potential financial return possible using this technology. Actual results may vary.

Reading the HayBoss G2 Tags

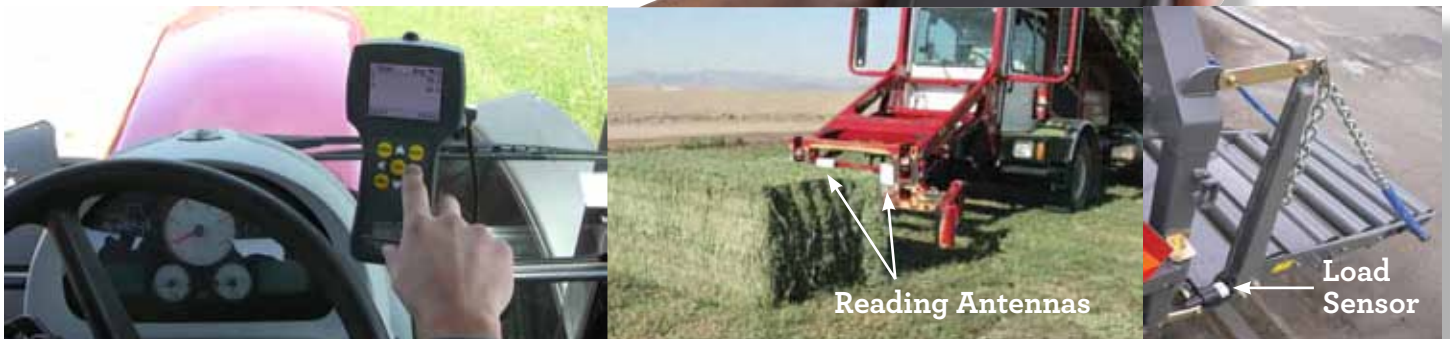
The information on the G2 tag is read with a scanning device. As the bale is later handled or fed, the data on the tag provides valuable information to manage and feed the hay with precision. The tag does not have to be seen but scanning equipment will read it and display it to operators handling the bales.

HAND SCANNING The tags can be read with a hand-held scanner up to 10 feet away. Using the keypad to navigate through the bale information while feeding or handling the hay.

SCANNING WHILE RETRIEVING BALES With the scanner mounted on the hay retriever the bales can be read up to 20 feet away. As the bale is approached the operator can reject it based on moisture or other criteria. As the bales are stacked, a record of the group of bales is recorded, listing the bales in each group and the total tonnage in a stack.

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

PRINTED RECORD OF SCANNED BALES The scanned information can be downloaded to a removable USB drive and transferred to a computer and printed out, giving the producer a list of bales that are in a stack, loaded on a truck, or the bale information can be emailed directly to the end user.



Accessories that Interface with the HayBoss G2 System

BALE SCALE Your large square baler can now be equipped with a bale scale available from AGCO. With a bale scale, the exact bale weight will be recorded in to the job records, instead of an input weight by the operator. Used with the AGCO HayBoss G2 Tagger, the system will write the average weight of the last 3 bales to the tag, giving the operator a close estimate of the weight as they scan the tag.

GPS & YIELD MAPPING

An additional GPS package for your large square baler is available to take your productivity to the highest level. By incorporating GPS into the HayBoss G2 Tagger, the system will write the coordinates of the exact location the bale was tied off in the field to the tag. Using this technology, the producer now has the knowledge needed to maximize productivity and plan for future yields.



Summary Benefits Provided by the AGCO HayBoss G2 Tagger

BENEFITS FOR THE HAY PRODUCER:

- Detailed individual bale records that can be emailed to customers
- Create consistent stacks when sorting bales
 - By bale moisture
 - By field location
 - By harvest date
 - By crop type
- Accurate inventory control
- Quality control
- Reduced transportation costs

BENEFITS FOR THE DAIRY OPERATOR:

- Detailed individual bale records (know what you are buying)
- Consistent quality of hay feed to herd
- Increased milk output per head
- Increased profitability

BENEFITS FOR THE HAY BROKER:

- You will know what you are buying
- You will know what you are loading and shipping
- Detailed individual bale records that can be emailed to customers
- Cross-check with your customer on what they receive
- Accurate inventory control
- Quality control





Want to know more about this product? Scan this code with your phone for more information!

Don't have a tag scanning device? Visit AGCOparts.com/Hay/PreservativeandApplicators