

Thirty Plus™ Buffered Acid Preservative System for Baled Hay and ProID™ Individual Bale Identification System



An Improved Buffered Acid for Baling at High Moistures

Case IH® continues a tradition of leadership with a powerful advancement which will ensure increased hay quality. Thirty Plus™ is a chemically buffered form of propionic acid formulated to inhibit spoilage of your valuable hay crop. Pound-for-pound, it does what straight propionic acid does, yet it's gentle on your baler, with a pH of 6.0 that is as neutral as rainwater. Thirty Plus enables you to maximize the number of acres baled per day at moisture levels up to 30%. It works on all types of hay, including alfalfa, grass, and other crops susceptible to spoilage at higher moistures. Just as important, Thirty Plus maintains the green color and fresh smell of your hay. Make Thirty Plus an essential addition to your hay management plan.

Hay baled at moistures between 16% and 22% without Thirty Plus will heat enough to cause discoloration and will lose its fresh smell. The quality and feed value will also begin to drop due to leaf loss. Applying a low level of Case IH® Thirty Plus™ will retain the hay's natural green color and fresh smell.

Without Case IH Thirty Plus, hay baled at moistures between 23% and 26% can reach temperatures of over 120°F in storage. Mold will begin to form and the hay quality drops significantly. The same hay baled and treated with a mid-range application of Thirty Plus will stay cool and will come out of the stack the same color it went in.

Baling at moistures over 27% without a preservative can result in bales heating to over 140°F. At such high temperatures the hay will turn black and may even combust. Case IH Thirty Plus will treat hay up to 30% moisture when applied at the highest application rate.

How Can Thirty Plus Benefit Your Hay?

- No more waiting on the weather, bale when you're ready at moistures up to 30%
- Start working earlier in the day, and work later in the evening.
- Bale at higher moistures without worry of heating or mold damage
- Hay treated with Thirty Plus is greener and higher in feed value
- When compared to dry preservatives and inoculants, Thirty Plus is easier to apply, gives more consistent coverage and won't clog application equipment.
- Works well on all types of hay
- Non-corrosive buffered formula won't harm expensive baling equipment, the user or livestock
- Thirty Plus treated hay can be stored for years and will look and feed as well as when it was first baled
- Thirty Plus can be stored outside as it won't freeze and won't lose effectiveness over time

Thirty Plus has been on the market over 10 years and is a clear favorite when it comes to preserving bales.

Thirty Plus is available in Four Convenient Sizes for Any Size Baling Operation

Large square baler operators will find a 200 or 270-gallon tote goes a long way and keeps them in the field as long as they need. A 50-gallon drum is enough for any size baler and will treat up to 100 tons of hay. Smaller operations may prefer to start with an easy to store 15-gallon drum. In any size, Thirty Plus is one of the most effective preservatives on the market.



Totes
1,800 lbs./200 Gal.* 2,380 lbs./270 Gal.
818 kg/757 L 1,082 kg/1,020 L



Drum
450 lbs./50 Gal.
204 kg/189.3 L



Mini Drum
120 lbs./15 Gal.
54 kg/50.5 L

*Not Available in Canada



Hay Treated with Thirty Plus Buffered Acid is Safe to Feed to Livestock

Bales treated with Thirty Plus Buffered Propionic Acid yield more tonnage and have a higher relative feed value and are safe to feed to all your livestock. Propionic acid, the main ingredient in Thirty Plus, is an organic acid occurring naturally in horse's gastrointestinal tract and in ruminants is produced by rumen bacteria.

Worry Free Application

Another major benefit to using Thirty Plus™ is that its gentle, but effective, ingredients will not cause corrosion on your expensive baling equipment. Use Thirty Plus™ with complete confidence and when paired with approved Case IH® applicators at the recommended application rate, you can be assured of maximizing your hay baling productivity year after year.

Thirty Plus Hay Preservative Ingredients

Active Ingredient Propionic Acid Citric Acid	64.5% 5.0%
Other Ingredients Ammonium Hydroxide, Deionized Water, Dodecylphol Ethoxylate, Green Dyes	30.5%
EPA Registration #73877-1-74898	Total 100%

Application Rates Large Square Bales

Hay Moisture	Stem Moisture	Dew Moisture Only
Under 22%	6 lbs/ton	3 lbs/ton
23% - 26%	10 lbs/ton	8 lbs/ton
27% - 30%	DO NOT BALE	16 lbs/ton

Small Square and Round Bales

Hay Moisture	Stem Moisture	Dew Moisture Only
Under 22%	4 lbs/ton	2 lbs/ton
23% - 26%	8 lbs/ton	6 lbs/ton
27% - 30%	16 lbs/ton	12 lbs/ton

Not recommended on any hay above 30% moisture.



Not all hay preservatives are created equal.

Propionic Acid and Inoculants: Propionic acid is proven to be the most effective product for controlling mold in baled hay. University research consistently points out that inoculants are shown to be virtually non-effective.

Buffering vs Blending: In order for a preservative to be defined as “buffered,” the buffering must take place in a temperature controlled reactor. Blending the ingredients results in a neutralized compound, which requires somewhat higher application rates to be effective.

EPA Registration: In order to be legally applied to hay, preservatives must be approved and registered by the Environmental Protection Agency. This is a comprehensive and expensive process to go through. Thirty Plus preservative is EPA registered in every state. It is illegal to use any preservative on hay that is not approved by the EPA.

Citric Acid: Used to retain the original color of hay after baling. If the preservative used is not effective, hay color loss will occur even if citric acid is used.

Surfactant: This ingredient makes particle size uniform for even dispersing and less risk of under application due to wind drift.

pH: A pH level below 5.8% is highly corrosive, and will attack equipment parts and may void warranties.

Specific Gravity: Higher numbers indicate better product performance. Lower numbers indicate improper manufacturing leading to lower performance.

Product Color: Thirty Plus preservative application systems are calibrated with a light green product color. A different color product will cause incorrect readings in the Thirty Plus flow meter.

Risks: There are significant risks to using inferior preservative and application equipment. Hay will mold in the bale. Bales may heat to the point of combustion. Hay color will be lost. Financial loss to valuable feed. Loss of customers unsatisfied with what they discover inside the bale. Also the use of non-approved preservatives in Case IH applicators may void the applicator warranty.

Brand	Propionic Acid-Labeled	Propionic Acid-Tested	Buffered vs. Blended	Citric Acid	Surfactant	pH	Specific Gravity	Color
Thirty Plus	64.5%	64.5%	Buffered	5%	T-DET DD5	6	1.06	Light Green
Competitor A	68%	56%	Blended	None	None	6.4	1.04	Light Green
Competitor B	68%	62%	Blended	2.5%	None	5.8	1.06	Dark Green
Competitor C	68%	62%	Blended	None	None	6.4	1.06	Dark Green
Competitor D	63%	53.2%	Blended	None	None	6.2	1.06	Light Green

THIRTY PLUS™

Applicators for Large Square Balers

Thirty Plus™ is formulated with the large hay producer in mind because large square bales offer the advantage of increased hay-making productivity.

Thirty Plus assures large square baler operators that bales produced between 16% and 26% moisture will not heat and will maintain their high quality, smell and appearance.



110-Gallon

Applicators for Round Balers



25-Gallon



55-Gallon

Thirty Plus works just as well on round bales as it does on large square bales. Hay can be baled with Thirty Plus at moistures up to 30% with a round baler, extending the hours of operation. Although no preservative product can reduce outside weathering, Thirty Plus can preserve the quality on the inside.

Applicators for Small Square Balers



25-Gallon



55-Gallon

Thirty Plus enables hay to be baled at moistures up to 30% with small square balers too. That means with Thirty Plus, you can get out in the fields early, even on cloudy days, and work later in the evenings when dew is heavier.

No matter what baler you use, there is a model of Case IH Thirty Plus applicator for your implement.

Tanks and saddles have been engineered to mount on all Case IH and any other type of baler so they are easy to reach and fill, yet out of the way.

Automatic Control for Large Square Balers

Automatic controls make baling high moisture hay easy!

The automatic system accurately senses moisture on the go and adjusts the application of preservative every three seconds to match the condition of the hay. This precision gives the operator the exact amount of product required to keep the crop in great condition without wasting product.



The touch-screen display gives the operator complete control and provides information for all the balers equipped with the automatic applicator. The monitor displays:

- Moisture content
- Speed of baling (tonnage) on large square and small square balers
- Target application rate and Actual application rate
- Volume of preservative used per bale
- Total tons baled

For Round and Small Square Balers

New 500 Series Automatic

The new 500 Series Automatic Applicator system for round and small square balers makes baling hay and keeping track of your bales even more precise than ever before. Similar to the current automatic applicator found on round and small square balers where the operator monitors the operation as the system continuously takes moisture readings and automatically adjusts application rates, there are numerous improvements on the already popular automatic design.

400 Series Automatic

The standard automatic control system for round and small square balers is still available and also still remains a popular choice. Driven by the baler mounted processor and touch-screen display, the automatic system is able to store up to 60 job records by field name with total tons baled, average and high moisture, date and time, and amount of preservative used.

Moisture Sensors

Accurate moisture readings are given to the automatic control by cleverly designed moisture sensors. Sensor shape, size and mounting position varies by baler type, but all work in the same fashion. A positive sensor mounts on one side and an isolated ground on the other side. When the hay bale comes into contact with these sensors, a current passes all the way through the bale, sensing moisture from one side to the other side, through the entire width of the bale. Sensing all the way through the bale like this gives a moisture reading that is accurate to within + or - one point.



Large Square Balers

Automatic systems for large square balers are equipped with star wheels that mount on the top of the bale chute.



Round Balers

Automatic systems for round balers are equipped with two sensing discs, one mounted on each of the baler's sidewalls.



Small Square Balers

Sensors for the automatic system on small square balers consist of two star wheels that mount on the bottom of the bale chute.



Electronic Cab Control

The electronic cab control is a solid state electronic pump control used for small square, large round, and large square balers. The control can be mounted in the cab or on the fender. Once set, the electronic control will hold the application rate constant. This unit is included with all 25 and 55-gallon applicators with electronic control. It is also included with 100 and 110-gallon applicators with electronic control for large square balers.

(Manual control available for round and small square balers, but not pictured.)

Comparison of Applicator Controls

	Electronic	400 Series Automatic Applicator	500 Series Automatic Applicator
Single Pump System	X		
3-Pump Manifold		X	X
Control Box With Adjustable Dial	X		
Touch-Screen Display		X	X
Built-in Flowmeter		X	X
Automatic Application		X	X
Moisture Sensing Capability		X	X
Job Record By Field		X	X
Job Records By Individual Bales			X
Calculates Baling Rate - Round Baler			X
Calculates Baling Rate - Small Square Baler/ Large Square Baler		X	X
USB Port To Download Records			X
Hay Indicator Compatible	X	X	X
Stroke Counter On Small Square Baler			X
Dye Sprayer Kit Compatible - Small Square Baler Large Square Baler			X
ProID System Compatible - Large Square Balers			X

USB Port - the 500 Series Automatic Applicator has a USB port on the side of the processor, which allows job records to be downloaded onto a personal computer, and new software updates to be uploaded to improve the system.

Stroke Counter - the 500 Series system on small square balers has a built-in stroke counter to help the operator create a more consistent bale by monitoring the number of flakes per bale.





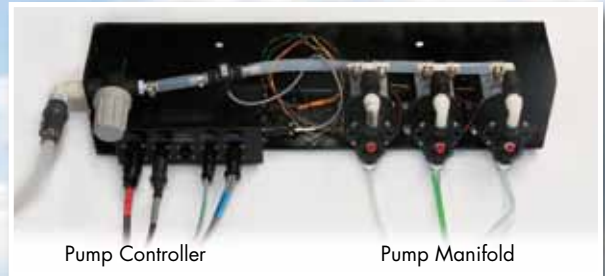
OPTIONAL TAGGER

The ProID™ Tagger is an optional addition to the automatic applicator on large square balers that allows you to take the specific information for each bale and transfer it to a tag that is attached to the twine.

[U.S. Patent 7,621,111B2] [U.S. Patent 7,415,924B2]

PUMP CONTROLLER

The Pump Controller is housed in the pump manifold and is controlled by the PIP. Based on readings collected by the moisture sensors, the pump controller turns pumps 1, 2 and 3 on or off, applying the correct amount of preservative for the moisture and tonnage being baled.



Pump Controller

Pump Manifold

Optional bale scale and interface kit provide on-the-go weighing and recording of each bale, accurate within +/- 2% even on hillsides.

PRECISION INFORMATION PROCESSOR

The Precision Information Processor, or PIP, is the system's main processing unit that controls the other modules and manages the entire system. Job records are downloaded via a USB port through the PIP.



SENSORS FOR SQUARE BALERS

Sensors for the automatic system on square balers consist of two star wheels that mount on the top of the bale chute directly behind the knotters.





AUTOMATIC CONTROL

The touch-panel display is located in the tractor and displays:

- Moisture content
- Speed of baling
- Target application rate and actual application rate
- Volume used
- Last bale average moisture
- Total tons baled



SPRAY SHIELD AND NOZZLES

Spray shields and nozzles have been designed and placed to ensure maximum and even coverage of the crop.



ProID Individual Bale Identification System

The latest development in precision hay production is the Case IH ProID Individual Bale Identification System. This versatile system allows the operator to customize their baling operation from start to finish, taking them to the next level in productivity and efficiency.

BALE RECORDS

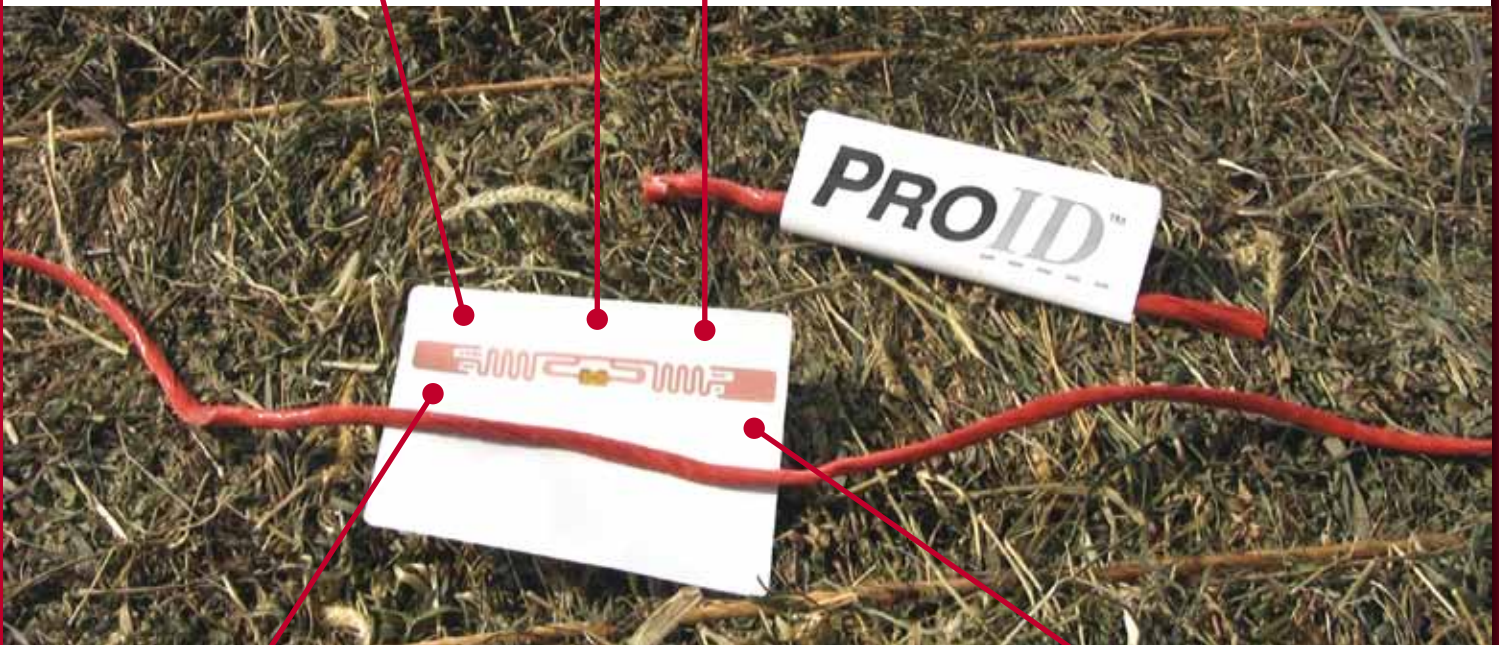
When tagging bales in the field the operator has the ability to scan and read individual bale data when retrieving the bales. When a bale with excess moisture is scanned in the field, it can be set aside to avoid damaging the other bales in a stack.

FEEDING

Tagging bales provides the end user with the precision to maintain consistency. Feeding a high quality bale nearest optimum moisture one day and low quality dry bale the next can drop milk production.

SORTING BALES

One of the most valuable uses of the ProID system is sorting bales. By scanning tags when sorting, the producer can create stacks according to bale quality, moisture levels, or bale weights.



INVENTORY

Keeping track of how much of each different quality or type of hay that is in inventory is easy and precise with tagged bales. Scan bales as they are stacked and transfer that information to a PC or laptop. When the hay is shipped or fed, it is scanned again, leading to an accurate inventory count.

DESKTOP SOFTWARE

The software program available for the ProID system is a simple program that is installed on a PC. After the bales are tagged and scanned, the information about the bales can be downloaded into the management program. The program will also generate searchable, detailed inventory records, and also has the ability to create shipping invoices for selling bales.

QUALITY CONTROL

When hay is shipped, the challenges of maintaining quality control are critical. By tagging bales that are going to ship or be exported, the producer and broker have a record of the quality and weight in the shipment. The ProID system provides the buyer peace of mind in regards to the quality, and documentation of that quality to the seller, enabling the seller to command a premium price.

Key Components of the ProID System



TAGS

A permanent vinyl tag is wrapped around the twine, and each tag holds a radio frequency identification (RFID) chip with memory. As the tag passes under the baler antenna, a signal is radioed to the tag, writing the bale's specific information permanently to the tag.

TAGGER

The tagger mounts on top of the bale chute. When signaled, it lifts the twine and the tag is wrapped to the twine as it is released.

(U.S. Patent 7,621,111B2) (U.S. Patent 7,415,924B2)

DISPLAY

Information collected by the PIP is displayed on the touch-screen display. The operator will always see the current moisture, rate of baling, and when the tag is applied.



BALER ANTENNA

Mounted on the back of the bale chamber, the antenna writes all the information gathered by the PIP to the tag.

PIP

The key component that drives the ProID system is the Precision Information Processor (PIP). The PIP stores bale information collected during baling and creates a unique profile for every bale made. The star wheel moisture and bale rate sensors send the information to the PIP.

STAR WHEELS

Two star wheels are mounted on top of the bale chute behind the knotters. As the wheels turn with the bale, they will record the baling rate and measure moisture between 8% and 70%.



Reading the ProID Tags

The information on the tag is read with a scanning device. The tag on the bale transmits valuable information to a receiver on the scanner, and the information is displayed on the scanner's display. The tag does not have to be in visual contact with the scanner, as the system works via RFID frequency.

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 operator approaches the bale, the operator can reject it based on moisture level and other criteria. As the bales are stacked, the group of bales is recorded, listing the bales in each group and the total tonnage in a stack.

SCANNING WITH A HAY LOADER

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.



PORTAL SCANNER

The portal system mounts to a boom over a truck and scans bales up to 3 deep as the load drives under it. All the tags will record to a PC and create a list of bales that were shipped and received. The system antennas can be wired directly to the PC or the data can be sent via wireless signal to a remote location.

Job Records

PRINTED RECORD OF SCANNED BALES

Once the bales have been scanned, the information can be downloaded to a removable USB drive, 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 sent directly to the end user.

FIELD	AVG MOISTURE	HIGH MOISTURE	PRESERVATIVE	BALE NUMBER	BALE WEIGHT	DATE/TIME BALED
W20	16	27	4.1	2241	1320	8 AUG 09 00:42
W20	20	29	6.3	2242	1410	8 AUG 09 00:43
W20	25	30	7.6	2243	1490	8 AUG 09 00:45
W20	24	29	7.2	2244	1365	8 AUG 09 00:46
W20	23	28	6.8	2245	1425	8 AUG 09 00:47
W20	18	27	5.5	2246	1410	8 AUG 09 00:49
W20	19	25	5.8	2247	1335	8 AUG 09 00:51
W20	20	23	6.2	2248	1375	8 AUG 09 00:52
W20	21	30	6.8	2249	1415	8 AUG 09 00:54
W20	29	41	8.3	2250	1495	8 AUG 09 00:55
W20	18	27	5.6	2251	1370	8 AUG 09 00:57
W20	17	25	4.8	2252	1380	8 AUG 09 00:58

One example of how a job record could be used is shown above. The highlighted bale in the job record shows an excessive amount of moisture, and could be an example of some bales that a producer would want to keep clear of the other stacks.



GPS and Field Mapping

An additional GPS package for your large square baler is available to take your productivity to the highest level. By incorporating the GPS into the ProID 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 ability to create yield maps for their crops, which will allow them to gain the knowledge needed to maximize productivity and plan for future yields.



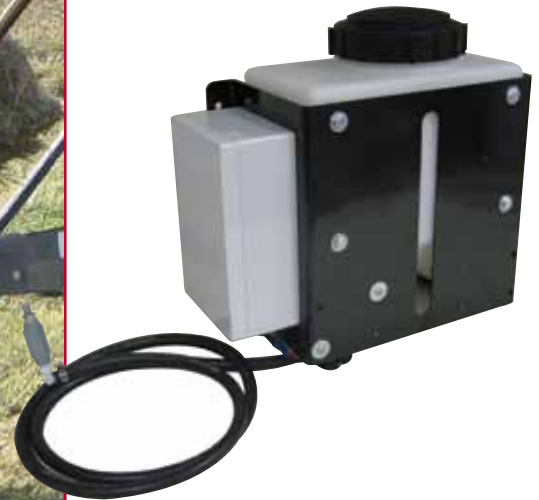
Bale Scale

Your large square baler can now be equipped with a bale scale available from Case IH. With a bale scale, the exact bale weight will be recorded into the job records, instead of an input weight by the operator. Used with the ProID 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.

Bale Scale part numbers for LB 3 series balers-
87622708 Small bale weight kit for 3' x 3' balers
87718024 Wide bale weight kit for 3' x 4' balers

*Requires the baler to be fitted or ordered with the Roller Chute. Will not work with the Plate Chute.

Dye Sprayer Kit



The Case IH Model 840 Dye Sprayer Kit (Case IH part number C0840) is a simple and effective way to visibly mark the wet areas on your large square bales. Compatible with any 500 Series Automatic Applicator on large and small square balers, and the 500 Moisture Monitor on large square balers, the 3-gallon system is mounted near the bale chamber with the spray tips on either the side or top of the bale chamber. Easy to fill and service, one tank of dye mix, part number 800, can last through a full tank of the Thirty Plus Hay Preservative.

The system is adjustable anywhere from 8% to 76% on large square balers, and 8% to 32% on small balers and when the high moisture alarm sounds on the display the system will spray a food-grade, red-colored dye that will visibly mark the exact location of the wet spots within the bale. By giving the operator a quick and easy reference by simply looking at their bales, the operator can better manage their bales for feeding, sorting, inventory, or storage.

Accessories for Applicators



Model 474A Hay Indicator Kit (Case IH part number C474A) is a great addition to your Thirty Plus™ Automatic Hay Preservative System. The 474 kit consists of two eyes that mount on the baler's pick-up head. The eye kit senses when crop is passing through and automatically starts and stops preservative application.



Model FX2000 Delmhorst Moisture Tester
(Case IH part number CFX2000)
Hand-probe and pad style moisture tester that digitally measures levels in the bales, windrow and in the chamber.



Model 9214 12-Volt High Output Electric Transfer Pump
(Case IH part number C9214)
For a rapid transfer rate of 14-gallons per minute, this pump will get the job done quickly.



Model 9212 12-Volt Standard Electric Transfer Pump
(Case IH part number C9212)
This standard output model will transfer preservative at a rate of 4-gallons per minute.



Model 9213 Hand Transfer Pump
(Case IH part number C9213)
Inexpensive, this hand transfer pump is ideal for transferring small amounts of preservative easily.

Applicator Part Numbers

Part Number	Description
C5964495B	Automatic Applicator for LBX 331, 332, 431, 432, LB333, LB433 Standard/Packer
C5964497B	Automatic Applicator for LBX 331, 332, 431, 432, LB333, LB433 Roto-Cutter
C5964528B	Automatic Applicator for LB433, 2011 or newer Standard/Packer
C5964529B	Automatic Applicator for LB433, 2011 or newer Roto-Cutter
C54725	500 Series Automatic Applicator for RB 454, 464
C54755	500 Series Automatic Applicator for RB 554, 564
C44725	400 Series Automatic Applicator for RB 454, 464
C44755	400 Series Automatic Applicator for RB 554, 564
C4464484B	400 Series Automatic Applicator for RB 444
C447U	400 Series Automatic Applicator for RB 455A Utility Baler
C44225	Electronic Applicator for RB 454, 464
C44255	Electronic Applicator for RB 554, 564
C4414484	Electronic Applicator for RB 444
C442U	Electronic Applicator for RB 455A Utility Baler
C5514415B	500 Series Automatic Applicator for SB 531, 541, 551
C4454415B	400 Series Automatic Applicator (25-gal) for SB 531, 541, 551
C4514415B	400 Series Automatic Applicator (55-gal) for SB 531, 541, 551
C4454409B	400 Series Automatic Applicator for SB 521
C4414415	Electronic Applicator for SB 531, 541, 551
C4414409	Electronic Applicator for SB 521

ProID Part Numbers

Part Number	Description
C850	Case IH ProID Tagger
C860	Case IH ProID Scanner
C0851	Case IH ProID RFID Tags, 1 roll (850 tags)
C0853	Case IH ProID RFID Tags, 3 rolls (2550 tags)
C0856	Case IH ProID RFID Tags, 6 rolls (5100 tags)
C0890N	Case IH Scale Interface Kit (requires CNH bale scale kit)
C0880	Case IH GPS Attachment
C0840	Case IH Dye Sprayer Marking System
C0800	Case IH Dye for Dye Sprayer
C865	Case IH Portal Scanner

Contact your local Case IH Dealer



www.caseih.com



www.harvesttec.com

PM-15860

Preservative Part Numbers

Part Number	Description
C0903	15-gallon Drum of Thirty Plus (120 lbs)
C0904	50-gallon Drum of Thirty Plus (450 lbs)
C0904PQ	Pallet of 50-gallon drums of Thirty Plus (4/pallet)
C0908	200-gallon Tote of Thirty Plus (1,800 lbs) U.S. only
C0909	270-gallon Tote of Thirty Plus (2,380 lbs)