STAHELIWEST

DewPoint 6210 Buyer's Guide

Dew More With Less

Changing Agriculture. Changing Lives.

www.staheliwest.com - 600 N Airport Rd, Cedar City, UT 84721 - 435.586.8002

Dave Staheli, President
Staheli West, Inc

Staheli West, Inc. was founded by Dave Staheli while managing Brent Hunter Farms in Cedar City, Utah. The Summer of 1994 was predominantly hot and dry, and Dave had grown weary of not having any natural dew. He was faced with the decision to bale dry hay that would shatter the leaves and lower the value of the hay or continue to wait and risk further loss of quality. After seeking inspiration from above, he recalled seeing a tortilla steamer at a taco restaurant and the idea to apply steam to hay was born. He gathered a box of dry hay from the field and took it into his wife Shelly's kitchen where he used her pressure cooker to produce steam. Dave was amazed at how the steam softened the hay without making it too wet.

In 1995, after some trial and error, Dave successfully developed the first steamer that would be placed between a tractor and baler. It worked great and the results in raising the quality and appearance of baled hay were hard to believe unless you saw it. In 1996, Dave built the first steamer to be used with a large square baler. The next year, with the help of his brother Mike, He built 9 more machines for both small and large balers.

In 1998, Dave licensed the technology to a major ag equipment manufacturer to take the DewPoint technology to the market. Dave worked with this manufacturer for 8 years. In 2006, development and marketing circumstances allowed Staheli West to receive the license back. Dave went back to the drawing board, and with the original concept in mind, combined with 12 years of field experience, he redesigned the DewPoint machine from the ground up. After two years of successful operation, the machines were ready to be brought to the market.

In 2010, Staheli West built the first five DewPoint 6110 machines in a hay barn for commercial sale, and the rest is history. Today, with hundreds of machines delivered and operating, Staheli West is changing lives and the forage industry all over the world. From the United States and Canada, to Mexico, South America, and Australia, Staheli West's brand is recognized for its innovative and revolutionary technology.

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The DewPoint 6210 is improving the lives of farmers all over the world. The DewPoint 6210 produces steam, which is injected into the hay during the baling process. The steam softens the hay and allows farmers to make quality hay all hours of the day and night without the need for natural dew.

The DewPoint 6210 allows farmers to DEW more with less. Here's How:

More Leaf: University studies show that baling with steam cuts leaf loss by 58% compared to baling with a good natural dew. The University of Wisconsin performed a study on baling with steam during the day and baling with a good natural dew at night. They state, "Steam re-hydrated bales indicated that leaf retention on the stems was superior to that of bales formed with [natural] dew rehydration."

"I figure I've picked up at least 100-150 lbs a bale. I used to think when I first looked at it 'well it's all water weight,' but it's not. You look at the leaf in those bales and you understand exactly where it's coming from."

- Jeff Wood, Utah

More Yield: Baling with the DewPoint 6210 means that more leaves make it into each flake, which increases bale weight. On average, baling with steam increases bale weight by 5-10%, much of which is leaf that would have otherwise been lost. Bale counts remain the same, but the bales are heavier.

"Our bale counts are the same. The bales are heavier so where is the yield really coming from? Well if you start looking on the ground there's not nearly as many leaves."

- Ryan Schwebach, New Mexico

"I calculated everything...If everything was as bone dry like it was on first crop. It was around 15,000 bales, just on bale weight alone, to justify the steamer cost. I think you could pay it back in a year."

– Brandon Yardley, Utah

More Productivity: With steam, farmers can bale quality hay whenever their hay is dry, which increases their baling window and makes them more productive. One DewPoint equipped baler can replace 3-4 conventional balers depending on local atmospheric conditions. That means less capital, fewer maintenance expenses, and lower labor costs.

"Last year we would go out about 3 or 4 am and we would bale until about 5 or 6 am until the dew got too much. Now I'll go out [with the steamer] and start baling about 6 pm until I get dewed out at about 6 am the next morning. I get 12 hours now... compared to 2-3 hours."

- Eric Webb, Idaho

"Last year we ran 4 balers, 4 tractors, and this year we're running 2 balers with the steamers and we have a third brand new baler sitting in the building all summer... We don't need it. We're able to bale more with 2 machines than we could with 4."

– Jungo Ranches, Orovada, Nevada

More Value: The DewPoint machine can increase the value of your hay. Marketing is much easier when your bales are consistent from the first to the last. Your customers will know what to expect every time. With steam, a farmer can expect to have good bale density, increased leaf retention, and a bale that has good smell and color.

"It really makes a very consistent bale...We were putting up really dry hay before, whereas now we are making those really consistent bales, and they're holding together real well, and they're stacking and storing real nice."

– Seth Menefee, New Mexico

"When you looked at two or three loads of hay. The first part of every load was always too dry, and the last part was too wet, and the middle was just about right. I think we took all that out, and now our hay is as consistent as we could ask for."

– James Sloan, New Mexico

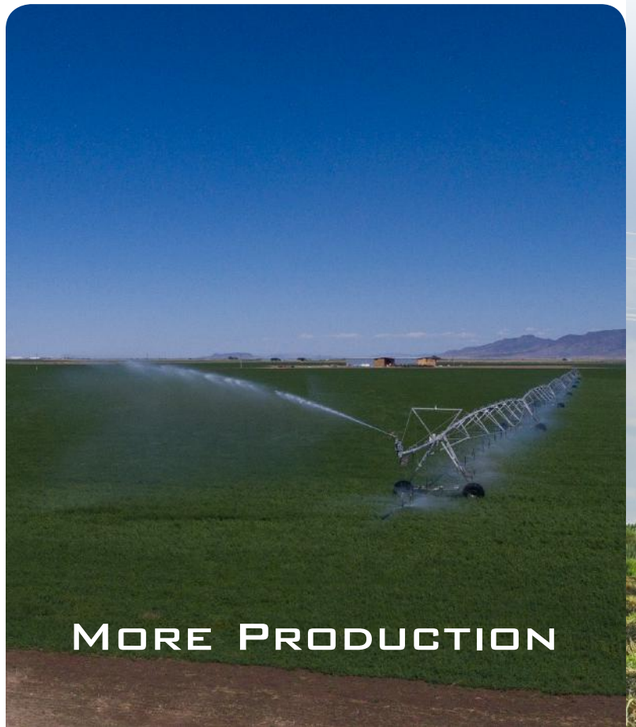
More Year-End Growth: Because farmers can bale whenever their hay is dry, they can cut, rake, bale their hay, and get water back on their fields quicker. This adds valuable growing days when the weather is warmest. Added growing days means that farmers will realize higher yields at the end of the year.

"We started cutting along with everyone else in the valley. We finished baling 2 weeks [before] everybody else. And so our 2nd cutting was baled and in the barn before guys even started cutting their 2nd cutting. Then 3rd cutting we gained a week. Then 4th cutting we gained a week. And then 5th cutting came around and people said '5th cutting... you're lying to us' [and I said] just come look at the books"

-Ryan Schwebach, New Mexico

"We used to take about 7- 8 days to bale all our hay. We've crunched it down to about a 4-day thing. That's huge."

- Alan Adams, Utah



More Control: With the DewPoint 6210, farmers have more control to work on their schedule, not Mother Nature's. Farmers have changed their management approach, because baling is no longer the bottle neck. Harvest operations can be scheduled better, knowing that you can bale a set number of hours each day.

"It's a dream come true to be able to produce 'dew' when you need it. If you ask me my favorite thing about it, it's absolutely the versatility of being able to deal with so many situations and have one thing that can change the game for you."

– Alan Adams, Utah

"It's a whole new world out there. If the hay is ready, you cut it, and that's where you get your quality because you're going to get it up... We have 20 hours of baling time with no dew, so we cut 20 hours of baling, and that's how we manage our fields... Be prepared to think totally different."

– Ryan Schwebach, New Mexico

Less Risk: The DewPoint 6210 lowers the risk of crop value loss due to rained-on hay or baling in overly dry conditions. Farmers no longer have to make the choice between baling too dry of hay to beat a storm or risking crop value loss due to rained-on hay. We've had customers bale over 500 acres in one day to beat storms.

"I paid for the machine in one crop last year. In third crop I baled over 600 acres in around 30 hours. We were just stacking the last load of hay when it started raining. All my hay was put up and it rained for a week. My hay was over 200 relative feed value and green. I figured I would have baled for 3 hours with regular dew, but I put up 1,200 acres with steam."

– Perry Van Tassel, Idaho

How Does the Machine Pay for Itself?

More Leaf – Reduce leaf loss by 58%

More Yield – Bale counts remain the same, but each bale weighs more because of increased leaf retention.

More Productivity – Bale more acreage with less equipment and labor. Cut down on labor, maintenance, repair, and management costs.

More Value – Produce higher quality hay that has good leaf retention, bale density, and bale consistency. No more baling dry hay.

More Year-End Growth – Receive higher yields on last cuttings because you were able to cut, rake, bale, and get your water back on your fields quicker on previous cuttings.

More Control – Decide your target moisture level and add the steam needed to make consistent hay every time. Control how many acres you cut based on how many hours a day you can bale dry hay with steam.

Less Risk – No more risking crop value loss by baling overly dry hay or waiting as potential storms arise. Bale hay as soon as the hay is sufficiently dry.

Higher Bottom Line

Owner's Talk

You look at the agricultural industry and kind of how things have transformed and the technology, and I put the Staheli West steamer right up there with Green Star Auto Steer... It makes a huge difference in your life. You don't really think you need it at first...But you're a lot more efficient with your time. You're efficient with your crops...It's a modern-day miracle.
– Eric Webb, Idaho

We're pretty-well guaranteed we can get 2-3 circles done every night... I felt like it was a good investment, and it would pay us back. With our tonnage, this steamer will pay for itself in the first year.
– George Rapp, Kansas

We're getting a higher quality product. We got more leaves in the bale. The hay is feeding better for them, and the ration is just easier for them to handle and take apart. We can start on one end of the field and by the time we get to the other end of the field the hay is the same... You have a better life, because you're not so limited to when you can work
– Austin Nokes, Kansas

I don't think there's any way that we won't be able to pencil out that we've paid for this machine this year... I was very much against this 18 month's ago... I had a change of thinking and looked at things a little different. I am very glad that I was open to it...This is the biggest game changer that we've had.
– Kevin Melvin, Kansas

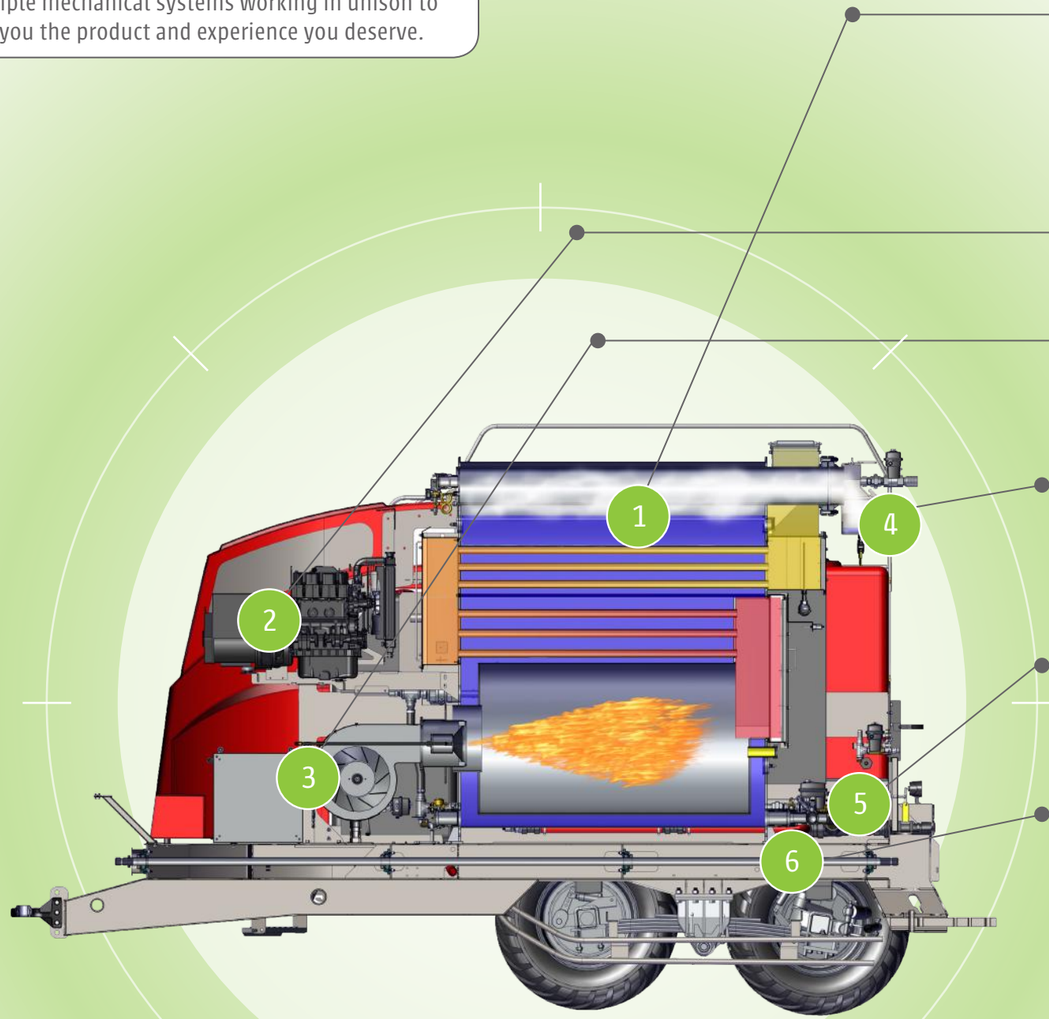
We spend a lot of our time chasing the dew. It's hit or miss. Since we got the machine, and started applying it, it's really given us a lot more control than we ever had before...Your reduction in labor and your increase in quality on everything you produce well pays for itself.
– Brady Shortell, Nevada

"It's a whole shift of how you put up hay...We've opened up our window of harvesting so big that it seems our options are unlimited." -Ben McIntyre, Idaho

"In every piece of farm equipment that you buy, you look at 'How fast am I going to pay this off?' This piece of equipment pays off faster than anything I've ever bought before."
– Dave Condie, Utah

How it Works

The Staheli West DewPoint 6210 Steamer has multiple mechanical systems working in unison to give you the product and experience you deserve.



1 - Boiler: A custom boiler design allows for maximum efficiency at a low pressure. As exhaust gases from the burner pass through tubes, water surrounding the tubes is heated and turned to steam.

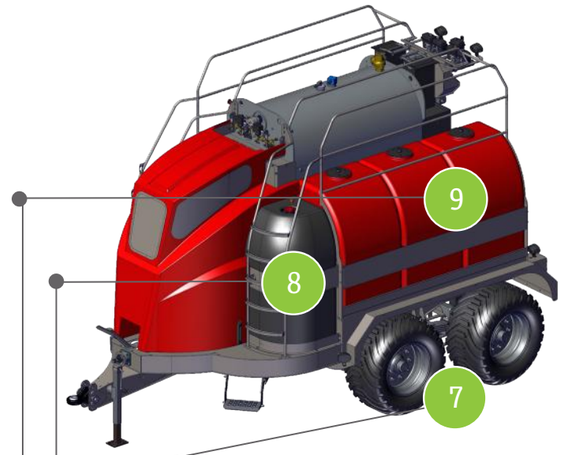
2 - Generator: A diesel-driven generator powers all electrical components on the machine.

3 - Burner: A diesel-fired burner is the heat source used for turning water into steam inside the boiler.

4 - Steam Valves: Four steam valves allow farmers to have custom control over the amount of steam they are applying to different spots of the windrow.

5 - Feed Water System: A unique boiler feed water system keeps steam pressure consistent through a wide range of operating parameters.

6 - PTO Shaft: The tractor powers the baler with the pass-through PTO shaft.



7 - Tires: The machine is equipped with radial flotation tires to minimize compaction in the field.

8 - Fuel Tanks: The Machine runs on #2 diesel fuel. The two tanks hold a total of 300 gallons. It uses an average of 1/2 gallon of diesel fuel per ton of hay baled.

9 - Water Tanks: The DewPoint 6210 can hold 1,000 gallons of water. Depending on crop yield and the amount of steam being produced, an operator can bale 80-120 acres of hay with one load of water.

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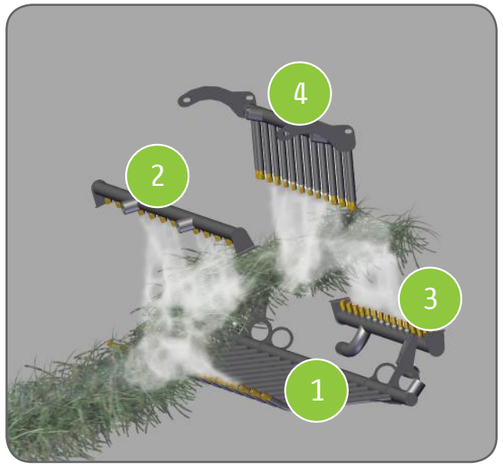
Where the Steam is Applied

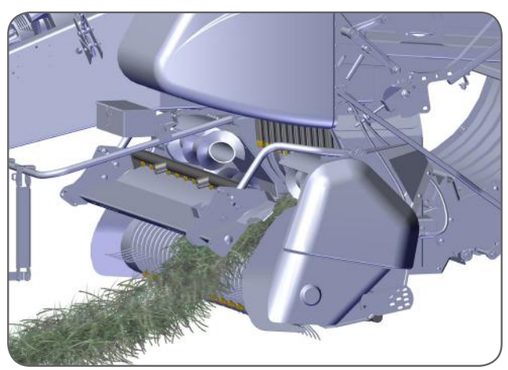
Steam is Injected Through Hardware on the Baler

Steam produced by the DewPoint 6210 is injected into the hay as it is lifted from the windrow by the baler pickup and further as it passes through the feed chamber of the baler. The treatment of the hay is accomplished by injecting steam through a series of distribution manifolds mounted in the baler.

Bale moisture is monitored continuously and adjustments to the steam injection rate are made by the machine operator as needed to maintain desired bale moisture conditions at all times.

Most baler steam hardware is made up of four manifolds that inject steam into the hay during the baling process.





1 - Bottom Front Manifold: Steam is injected into the underside of the crop windrow as the hay is picked up by the baler.

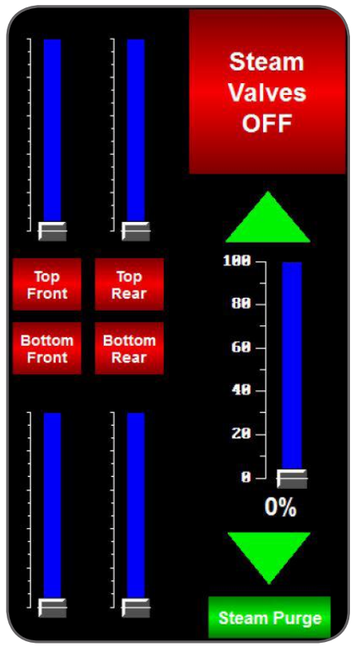
2 - Top Front Manifold: Steam is injected into the top of the crop windrow as the baler picks up the hay.

3 - Bottom Rear Manifold: Steam is further injected into the underside of the hay in the feed chamber to ensure that the hay remains soft and pliable throughout the entire baling process.

4 - Top Rear Manifold: Steam is further injected into the top side of the hay in the feed chamber to ensure that the hay remains soft and pliable throughout the entire baling process.

The four steam manifolds correspond to the four steam valves that distribute steam out of the boiler. Each manifold can be controlled individually from the cab with these four sliders on the touch screen. The main slider to the right is the master steam rate.

Conditions in the windrow often vary. If the top side of the windrow is drier than the bottom, you can use these sliders to turn the steam rate on the bottom manifolds down, and the top side up or vice versa.



Why Use Steam

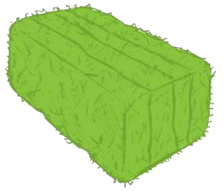
Steam is an extremely effective moisture medium for controlled hydration of hay during the baling process. One gallon of water will produce approximately 1,700 gallons of steam. Therefore, when baling hay on a warm windy afternoon you will likely add about 5-7 gallons of water in the form of steam to one ton of dry hay.

This equates to only 2-3% moisture addition by weight but this 5-7 gallons of water applied to this 1 ton of hay is converted into 8,500-12,000 gallons (or more) of steam which allows every leaf and stem in that ton of hay to be treated without becoming too wet.

When the injected steam contacts the dry crop material it instantly condenses and bonds with other water molecules in the vicinity, which causes instant absorption into the dry crop material. This is the reason the DewPoint system works so efficiently. The machine operator has full control of baling moisture, enabling production consistency over a wide variety of ambient conditions.

Water 5-7 Gallons

Applied to 1 Ton of Hay



= 8,500 to 12,000 Gallons of Steam

= More Consistency

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PRESERVE WHAT YOU WORK SO HARD TO GROW

User Interface

The DewPoint 6210 touch screen monitor automates many of the machine functions to make it easy and simple to use. The screen shows you the water level, fuel level, boiler steam pressure and other information that is helpful as you operate. It also allows you to control the amount of steam that you are injecting into the hay.

I was a little bit nervous about [how] complicated the machine looked, but as far as operating it, it is super simple to operate. The screen is great... There is a lot in that screen. The diagnostics, the service menus, and the reminders on the oil changes. It's easy-easy to operate. It's not scary at all.

– Brandon Yardley, Utah

Water Requirements

Water Softener or Reverse Osmosis Unit

Since the DewPoint 6210 machine uses a boiler to generate steam, it's important that you use softened or RO water to avoid building up scale inside the boiler.

Water Storage & Transportation

We recommend using a black water tank for treated water storage to avoid algae growth in the tank.

Boiler Water Treatment

Whenever you fill the DewPoint 6210 with water, you will also add 1 gallon of our boiler water treatment called Dew Good. This will maintain the inside of the boiler and keep it from building up scale.

Water Transfer Pump

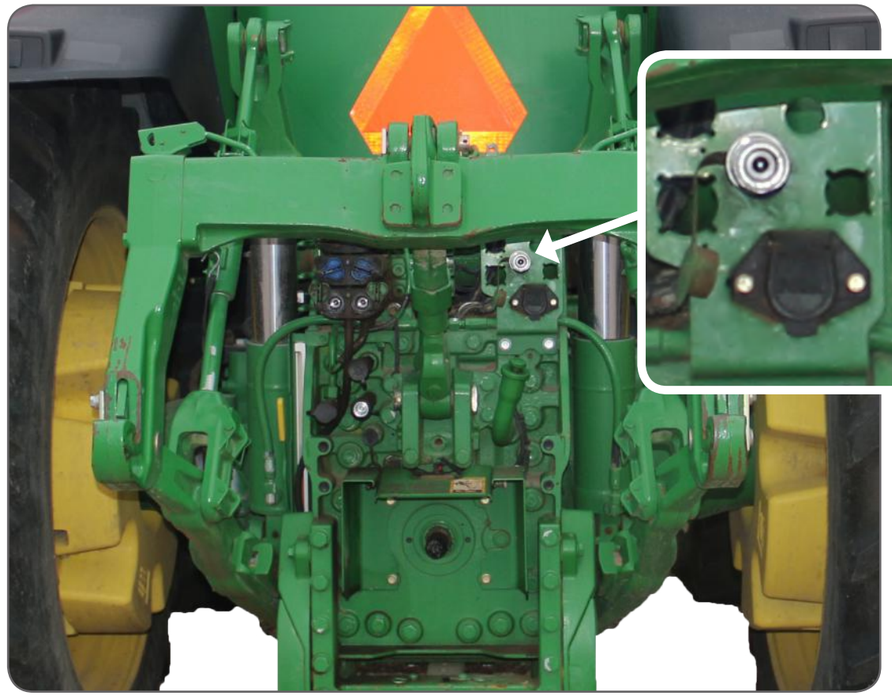
You may use a transfer pump to fill the supply water tanks on the DewPoint machine.

Tractor Requirements

The DewPoint 6210 weighs roughly 29,000 lbs when fully loaded with water. Because of the added weight you will need a tractor with the following specifications.

0-2% Slopes = 200 Engine Horsepower
0-5% Slopes = 240 Engine Horsepower
0-10% Slopes = 275 Engine Horsepower

Because of the weight of the DewPoint 6210 and the baler, you will need a tractor equipped with a hydraulic trailer-brake valve.



Hydraulic Trailer-Brake Valve Required

With the added lights of the steamer, you may also need a light boost harness. Some tractor lighting systems do not supply enough amperage through their work light circuit to power the lights on both the DewPoint machine and the baler.

Light Boost Harness

Compatible Balers

Staheli West has designed steam hardware to fit many different brands and models of balers. Here are the brands of balers that we have hardware designed for. Call us or check with your local dealer for more information on specific models.

KUHN
MASSEY FERGUSON
JOHN DEERE
NEW HOLLAND AGRICULTURE
KRONE
CASE IH

Gazeeka Moisture Sensor

We've been partnered with the makers of the Gazeeka moisture sensor since the very beginning. The Gazeeka is a non-contact moisture sensor that uses high frequency electromagnetic waves that are transmitted between two antennae. These waves pass through the entire width of the bale and give operators an accurate bale moisture reading in real time right in the tractor cab.

Using the moisture readings from the Gazeeka, operators of the DewPoint 6210 can adjust steam rates to meet their desired moisture level and produce a consistent product.

Common Questions

In terms of quality, how does steam compare to natural dew? University studies have shown that using steam to bale hay reduces leaf loss by 58% compared to natural dew. However, one of the main differences is that you can produce high quality hay in dry and even windy conditions both day and night.

Won't I lose a lot of leaves at the pickup? No. Steam is injected and absorbed into the hay before and during the baling process. Because steam reacts to the hay so quickly, leaf retention is increased.

How does the DewPoint 6210 affect my baling speed? The DewPoint will not slow you down. Enough steam is produced that it will easily keep up with your baler. Because steamed hay packs into a bale easier, you can increase your field speeds by 15-25% and still have higher bale density.

What are the operating costs of running the DewPoint 6210? You will consume approximately 1/2 gallon of diesel fuel per ton of hay on average to produce steam. So, the cost of fuel will drive the cost of operation. You will also spend about 15-20¢/ton for water conditioning. Currently (August 2018), the total cost of operation is less than $2/ton. The operating costs are more than offset by improved leaf retention.

How often do I have to refuel and refill the water tanks? The 1,000 gallons of on-board supply water will last 3-6 hours, depending on the steam injection rate. The 300 gallons of on-board fuel will last for 3 loads of supply water (9-18 hours).

How is maneuverability? I don't know how to drive a train. Thanks to the geometric design of the DewPoint 6210 you will have at least the same maneuverability as a tractor with only a baler attached. Some owners have said it actually decreases their turning radius.

How difficult is it to operate the DewPoint 6210? Easy! If you already know how to operate a large square baler you are 80% of the way there. The touch screen operating system is very intuitive and easy to learn. We sponsor pre-season training seminars for DewPoint owners to help you become familiar with the entire system.

How much moisture will I be adding? You are in total control of the amount of steam injected into your hay. When your hay is completely cured and you're working in dry conditions, you will likely add around 2-3% moisture, which equates to around 5-7 Gallons of water per ton of hay.

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Common Concerns

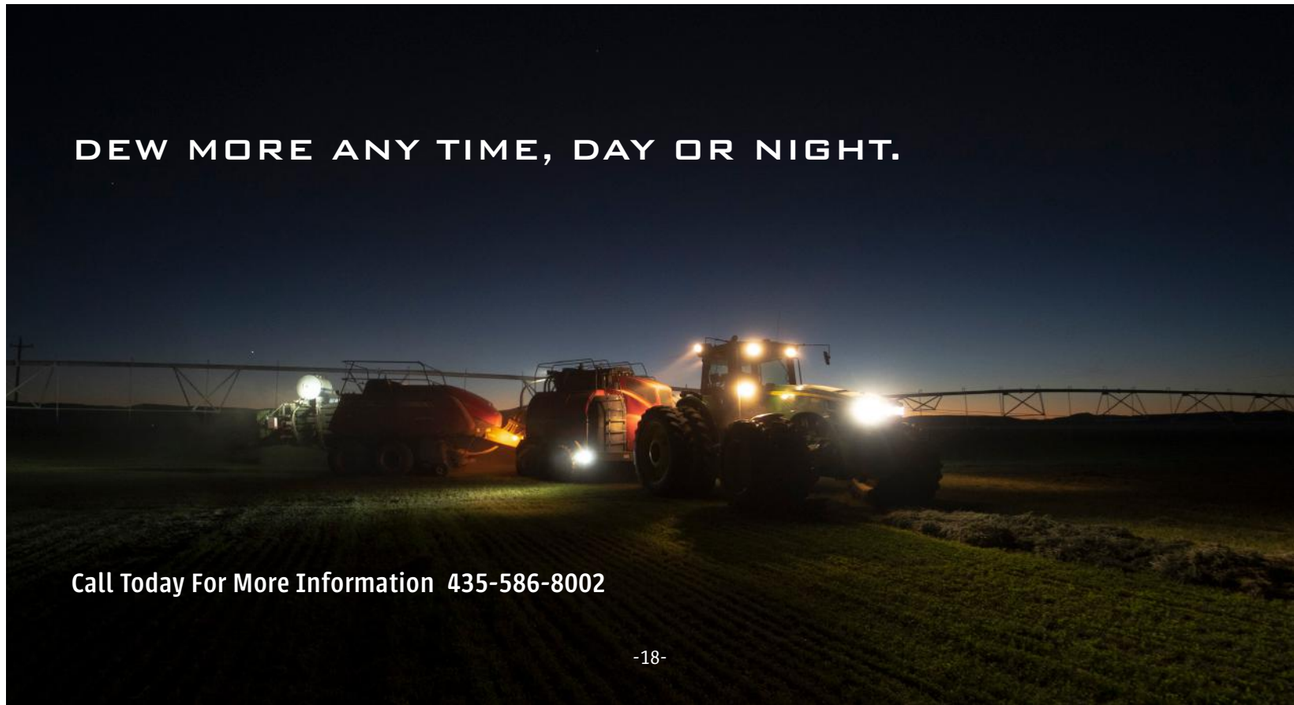
"I don't need to add moisture. I already have too much." When the dew burns off, go bale hay. Situations that would normally create dry, shattery hay, are perfect times to start up your DewPoint machine. This might mean baling in the middle of the day, but why not? Any time your hay is dry, the DewPoint machine shines. Some customers have even paired the DewPoint machine with hay preservative systems and significantly expanded their baling window especially during monsoon weather and in higher humidity areas. Not only will you make great hay, but you will also lose less leaf than you would with a perfect natural dew.

"I don't think I can operate such a complicated machine." Running the DewPoint machine consists of adjusting the steam rate into four steam manifolds mounted in your baler. Simply choose the type of hay you want to make, and adjust the steam rate until your bale moisture reading is where you want it. With redundant safety features and a clear user-interface, making great hay is easier than you might think.

"I don't have enough acres to justify buying one." Every operation is different, and everyone will utilize the DewPoint machine differently. After completing a financial assessment with us, you will see how even smaller farms can increase revenue with the DewPoint machine. We've seen operations with as few as 400 acres boost quality, production and profit.

"I don't think my customers will pay more for steamed hay." The DewPoint machine gives you more control over several aspects of baling hay. This extra control can result in reduced leaf loss, increased baling window, higher year-end yield, and improved overall bale quality when compared with conventional baling. DewPoint machine owners have reported that customers have paid from $5-$40/ton more for steamed hay depending on their local market.

The DewPoint machine is currently being operated in North America, Central America, South America, and Australia. Moisture levels, temperatures, climates and growing season vary widely, but the DewPoint machine remains a constant, and that's the beauty of it. As long as your hay is dry you can inject the right amount of steam to make a quality product.

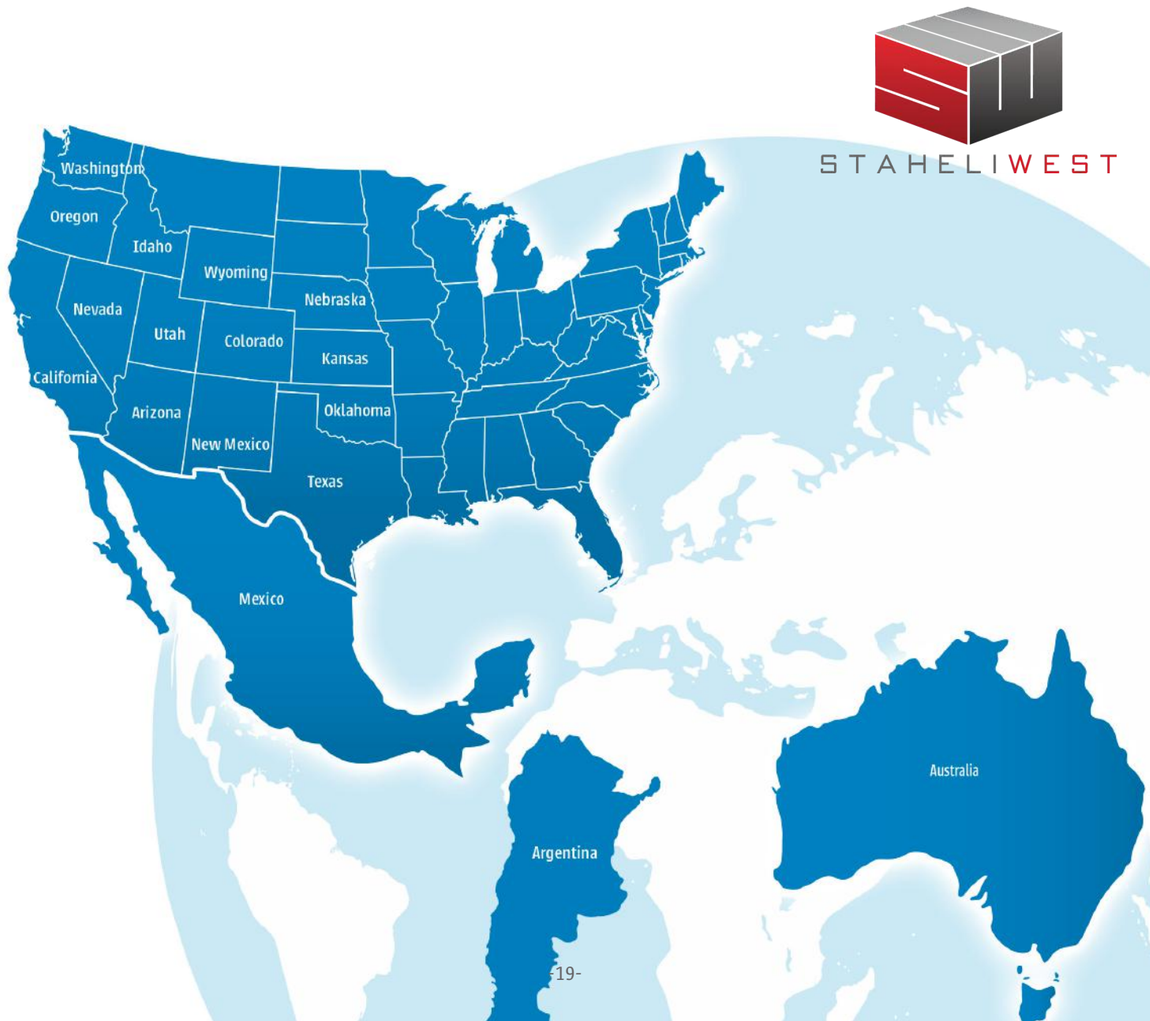


Our Goal

Our goal at ***Staheli West*** is to revolutionize the agricultural industry. We accomplish this goal by providing farmers with technology that improves their operations and their lives. Farmers all over the world are taking advantage of the DewPoint hay steamer

We also have a wonderful team of dealerships that sell and service the DewPoint 6210 in local areas. We have dealers located across the Western U.S., Mexico, Argentina, and Australia.

Please contact us if you have any questions or need help locating a dealer.
435-586-8002



Machine Specs

DewPoint 6210 New Features

- Dual Simplex Nozzle System: Allows for a much simpler fuel system and significantly reduces the need for fuel pressure adjustments.
- "Touch Tune" Air Adjustment: Air flow adjustments can all be made directly from the touch screen controller. Several different parameters can be fine-tuned with the touch of a button in order to optimize combustion.
- Self-Cleaning Blower Fan: Innovative fan design prevents dust build up and provides consistent air flow without the need for daily cleaning.
- User-Interface: New control screen in the cab with maintenance reminders, service menus, and fault codes that make it easy to diagnose and fix problems.

Dimensions

- Overall Width: 11 ft; 3.35 m
- Overall Length: 17.75 ft; 5.4 m
- Overall Height: 11 ft; 3.35 m

Approximate Weight

- Dry Weight: 17,000 lbs; 7,700 kg
- Fully Loaded with Fuel & Water: 29,000 lbs; 13,200 kg

Fluid Capacities

- Diesel Fuel: 300 Gallons (1,135 Liters)
  Expected run time: 9-18 hours
- Boiler Supply Water: 1,000 Gallons (3,785 Liters)
  Expected run time: 3-6 hours

Boiler

- Normal Operating Pressure: 12 psi
- Boiler Pressure Max: 15 psi

Burner

- Fuel Type: #2 Diesel
- Ignition: Propane Pilot

Generator

- Engine: 3 Cylinder Diesel. 21 HorsePower
- Alternator: 240 VAC. 12,000 Watts

Tires

- 4 Radial Flotation Tires: 620/40-R22.5 BKT. 36 psi field pressure

Axles

- Type: Bogie Tandem
- Suspension: Spring
- Front Axle: Leading Rigid, Hydraulic Brakes
- Rear Axle: Trailing Steerable, Hydraulic Brakes

PTO

- 1-3/4 Inch Drive Shaft: 1,000 RPM

Hydraulics

- Steering Axle Lock Cylinders: 1 SCV
- Baler Pickup: 1 SCV
- Other Baler Hydraulic Requirements: As Needed

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