



**SMART** ENSILAGE



## Flexible, economical and eco-friendly silage storage

Feed quality and profitability are key factors in feed ensiling. Several Swedish studies show and support that bagging silage provides feed with high quality and hygiene, nutritional value and economy. Winlin has been in the silage bagger market in Sweden since the 1990s and has broad experience and knowledge of this technique in Scandinavian farming. Studies (M. Sundberg, JTI, for example) in ensiling have confirmed the hypothesis that the mechanical treatment of forage by the packing rotor has a beneficial effect on the fermentation process, resulting in faster acidification. This improves the possibilities of producing high quality silages, especially for crops that are more difficult to ensile. One important factor is the milk acid bacteria is allowed quick access to WSC to grow, therefore decreasing the pH.

### Farmer

Bagging benefits the farmer by saving time and providing absolute air-tight storage with excellent feed quality including:

- Less spores and mastitis
- More protein and energy in the milk
- More milk for the same amount of feed

Other benefits include shorter startup time to begin and end ensiling. Bagging uses only 20% of the plastic compared to round bales. Bags don't leak press water that can cause nutritional feed loss.

Economical benefits are:

- Low investment costs
- You decide at what level you want to invest. Buy a machine, or hire a contractor to do the job for you.
- Minimal feed loss
- High feed quality



### Contractor

Satisfied customers and good economy are just two of the benefits of owning a silage bagger.

The uses are wide and varied with silage baggers. In addition to silage, primarily grass and corn, the machine can bag peat, wood chips, compost and a wide variety of bi-products including sugar beet pulp, orange peel and brewers grain.

Industrial uses include food products, waste products, energy and forestry.

Bagging is a flexible technique guaranteed to give you a profitable return on your investment.

The sturdy design and construction means reliability giving Winlin and Versa™ baggers a high second-hand value which makes your investment even better! Fuel consumption is lower per ton feed compared to other ensiling systems.

### Energy

Bagging as a method of ensiling grass, corn, oatlage, grain and other products can very well be used in other areas than agriculture. There is very little difference between storing grass for feed or for a digester at a biogas plant. In both cases you need high capacity. Both demand storage without feed loss at reasonable investment costs.

Our machines provide you flexibility. Bagging is an interesting alternative for bio-gas production sites where i.e. grass and corn are used or even byproducts or waste products. Wood waste - peat or wood chips are also good alternative uses for our baggers.





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### What can you bag?

A variety of crops, commodities and refuse can be bagged. Examples of typical agricultural uses are grass, corn, oatlage, straw and grain. Other uses for bagging are peat, wood chips, sawdust or byproducts from diverse processes. Cut length should be 15-50 mm. Moisture content 55-70% is optimal for grass silage, 15-35% for grain and as high as 85% for other certain byproducts.

### Harvest and transport

Self-propelled choppers or tractor-driven choppers are all suitable to use with baggers.

Using a tractor and tip trailer (30-60 cubic meter) or even trucks with containers are good options for transporting feed.

### Foundation

Storage locations need to be appropriate to the bag's life and should be chosen so that bagging is convenient and the trailers have enough space to turn around. It is just as important to place the bags where they are easily accessed and near the material's final destination. The foundation must be well-drained and hard packed i.e. gravel, asphalt or cement. It is beneficial if the foundation has a slight incline to assist with water runoff.

### Intake

The feed is tipped into the feed table that conveys the feed into the packing rotor with an infinitely variable speed. The rotors in all of our machines are unique in the fact that it is placed higher than the other machines on the market to ensure a hard well-shaped bag and easier to bag material with higher moisture content. When bagging with the Winlin 5400-810, the feed is unloaded from the trailer and then tipped onto the feed table with a tractor bucket or loader. Versa™ baggers are fed by backing up the trailer or container to the machine and tipping directly onto the feed table.

### Bagging

The rotor teeth attached to the rotor in a spiral pattern each grab a small amount of feed, packing it in the tunnel as the rotor turns. An important factor in ensiling in bags is the mechanical treatment of the feed, speeding up the production of sugar and dropping the pH. It enables the silage to have low energy losses and high storing stability.

On the Versa™ baggers the rotor teeth are chromed which makes them last approx 2-400 000 ton packed material.

### Tunnel and Compaction

The rotor is well-designed to pack evenly in all directions in the tunnel. Winlin has the longest tunnel on the market, ensuring a smooth and even bag. It is important to have a smooth and compact bag without separating grass and water. Winlin 5400-810 pushes the tractor and bagger forward and compaction is determined by mechanical brake pressure. Self-propelled Versa™ machines have a unique Internal Density™ cable inside the tunnel which pulls through the feed providing a secure, hard pack.

### Removing the feed

A flat bucket is best for removing the feed. The plastic is cut so a half moon pattern is formed on the ground surface. During removal the front wheels of the loader are on the remaining plastic and stretches it while filling the bucket. Minimum daily removal is approximately 20 centimeters of the open surface, depending on outside temperature and dry matter content. 20 centimeters equals 200-300 kg dry matter on a 10 foot bag.





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### Winlin 5400-810 A dependable tractor-driven silage bagger

Winlin was developed and designed for Scandinavian farming. The feed is tipped onto the feed table with a front loader or tractor bucket. The table's speed can be regulated to match the moisture and consistency of the feed, ensuring an even, smooth and airtight bag. The unique rotor pushes the feed both up and out, packing the feed into the patented tunnel.

The feed is packed in the tunnel, not in the plastic as with other machines. During the packing process, the tractor and bagger are pushed forward and the density of the pack is regulated by mechanical brakes on the machine. Two brake cables, attached to a net at the back on the bag, run alongside the bag to assist in compression of the feed.

8, 9 and 10 foot exchangeable tunnels are available for the Winlin 5400-810.

**Capacity with 10 foot tunnel (3m)**  
1500 kg TS /meter

- 25 metric ton TS /hour (corn)
- 20 metric ton TS /hour (grass)

**Capacity with 8 foot tunnel (2,40m)** 1000 - 1200 kg TS /meter.

- 20 metric ton TS /hour (corn)
- 15-20 metric ton TS /hour (grass)



### VERSA™ 912 & 1014 Self-propelled baggers



Versa™ ID1014, equipped with a 540 hp engine is designed for the farmer or custom operator with a machine park with high capacity.

Versa™ ID1014 is used in Sweden by custom operators, bio-gas plants and waste management facilities. Versa™ machines are manufactured in the USA and have been on the market for more than 25 years.

Versa™ ID912, equipped with a 240 hp engine, is a smaller version of the ID1014, slightly lower capacity and operator's platform without a cab. Both machines have exchangeable tunnels.

Packing density is determined with help of both air brakes and a unique Internal Density™ cable inside the tunnel. No need for a backstop or cables. Feed is tipped directly onto the feed table by trailer or container. The rotor packs the feed airtight with unique chromed teeth. The feed is packed into a two-meter long tunnel creating a smooth and even bag without air pockets.

#### Technical data ID 1014

**Tunnels (foot):** 10, 11, 12, 14  
**Width:** 4,24 (with 12foot tunnel)  
**Length:** 11,5 m  
**Height:** 4m  
**Weight:** 19 ton  
**Opening feed table:** 3,25m  
**Motor:** John Deere 13,5L 525 hk (diesel)  
**Fuel tank:** 908 liter  
**Transmission:** Planetary gear  
**Rotor:** 71,12 cm x 264cm  
**Anvils:** exchangeable  
**Packing teeth:** concave chromed  
**Brakes:** air supported  
**Crane:** hydraulic up/down, in/out

#### Technical data ID 912

**Tunnels (foot):** 9, 10, 11, 12  
**Width:** 3,58 (with 10 foot tunnel)  
**Length:** 9,25 (with 10 foot tunnel)  
**Height:** 3,63 m  
**Weight:** 10 ton  
**Opening feed table:** 3,05 m  
**Motor:** John Deere 6,8 L, 240 hk (diesel)  
**Fuel tank:** 352 liter  
**Transmission:** Planetary gear  
**Rotor:** 55,88 cm x 231 cm  
**Anvils:** exchangeable  
**Packing teeth:** concave chromed  
**Brakes:** air supported  
**Crane:** electric



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Made in the U.S.A.

## Up North Plastics

### Up North Plastics

We import and have in inventory, the best quality plastic available from the USA.

It is important to choose a plastic that is manufactured for the material being bagged. A bag should maintain its stability during all weather conditions, without cracking or splitting when opening the bag and removing feed.

Up North maintains its quality in both sub-zero temperatures as well as extreme heat in the summer. Plastic for ensiling should be able to stretch during packing to shape itself airtight around the feed.

We recommend a thicker, more firm plastic for sugar beet pulp and grain storage.

Up North has both quality bags for your feed needs.

Standard sizes in inventory can be delivered in 2-3 days.

- 8 x 60m ( micron)
- 9 x 75 m
- 9 x 90 m
- 10 x 60 m
- 10 x 75 m
- 10 x 120 m
- 11 x 75 m
- 11 x 90 m
- 11 x 150 m
- 12 x 150 m



If you require other dimensions we can get it for you. Grain bags (239 micron) are available in 9 and 10 foot bags, pre-order is required.

## CONTACT US



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