FeedFIT®

FEED CENTER DESIGN

NE Wisconsin Dairy

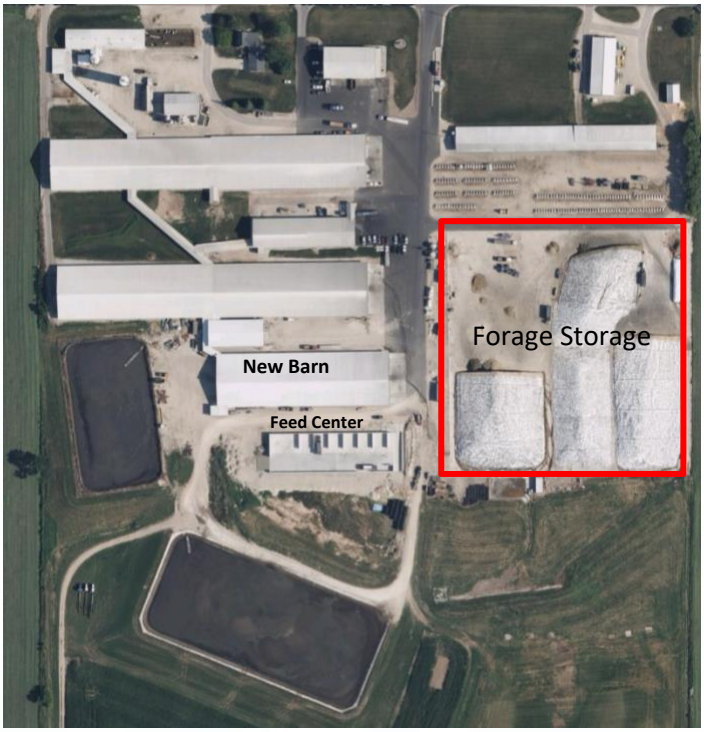
2023

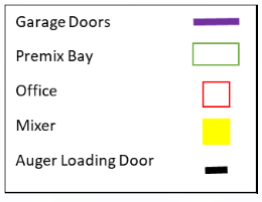
GPS DAIRY® CONSULTING LLC

Feed Center Design
NE Wisconsin

Background: This northeastern Wisconsin dairy milks over 2,000 cows with a feeding center that is centralized around a 270' x 80' (82.3 m x 24.4 m) enclosed commodity building with home-grown forages stored in drive-over piles right beside the commodity building. Due to some space constraints, this was the best shaped building for this site. The farm feeds three sites out of this feed center**.** They include the main site where the feed center is located, an additional milking site ~20 miles (32 km) away, and a heifer farm ~2 miles (3 km) away.

General Layout:





Commodity shed: The commodity shed building has 2, 28’ (8.5 m) garage doors on the west and south sides of the building for access to the feeding area. The building was designed to be able to keep up with the growth of the farm over the next several years.

The bays are 29’ (8.8 m) wide x 8’ (2.4 m) tall x 30’ (9.1 m) deep. The bays that house forages are full width, while bays that hold commodity ingredients are currently split in half with temporary blocks. The design of this building also allowed the farm to have extra bays.

Forages from drive-over piles are staged with a silage truck at different times of the day depending on weather conditions.

Commodities can easily be unloaded by auger trucks on the rear side of the building through elevated garage doors above commodity bays. There is access to the bays on either side of the wall the door is above. This allows the farm to unload ingredients at the back of the bay to utilize older ingredients first and does not disrupt the feeding process during deliveries.

Left: View of bays and staging area
Right: Close-up of one bay housing home-grown forages

Left: Forage delivery into staging area of commodity shed
Right: Close-up of bay split in two with temporary blocks housing commodity ingredients. Also viewing the open garage door at top for commodity deliveries from the back of the bay.

Left: View of loading end of commodity shed
Right: Close-up of bay split in two with temporary blocks housing commodity ingredients.

Mixing and loading: The farm utilizes a Meyer F1215 Stationary Mixer, with a drive-through lane for loading TMR into delivery trucks. The trucks are loaded by custom-built belts coming out of the 2-side mixer doors. Having 2 belts for unloading helps speed up the process while also serving as a backup if one door/belt is broken. A 10 hp electric on hydraulic motor opens both doors.

When pre-mix is made, it is augured out the rear mixer door via 2 augers into its own bay, located right next to the mixer for easy accessibility. The max load size for this mixer is approximately 40,000 lb (18,145 kg) for a lactating cow ration.

The loading area is a drive-through bay that measures 80' (24.4 m) long by 17' (5.2 m) wide. There are no ramps, which is easier on equipment and allows for safer entry and exit for drivers. The driver's side door faces the mixing area when parked for easy exit.

Bins: Lower inclusion commodities are kept in bins located just outside of the commodity shed. There is one 17-ton (15 metric ton) bin and one 19-ton (17 metric ton) bin. These ingredients are run with whey permeate over the truck loading area into the stationary mixer. The bins are run off of a remote control, located in the loader, with a manual start and stop button.

Left: Rear view of loading delivery truck

Right: Top view of stationary mixer

Left: Front view of stationary mixer. Augurs to the right would deliver premix into separate bay
Right: View of bin and molasses set up outside of commodity shed

Left: View of delivery truck exiting drive-through lane