



Determining the Tons of Silage in Upright Silos for CFAP

Kevin Jarek, Liz Binversie, Bill Halfman, Paul Mitchell

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This tool helps a farmer calculate the tons of silage in an upright silo and convert it to its grain equivalent for including in 2019 production for determining CFAP payments.

Begin by downloading the Tower Capacity Silo spreadsheet:

https://fyi.extension.wisc.edu/forage/files/2014/02/TowerSiloCapacity_10-19-12PROTECTED.xlsx.

Step 1: In the yellow cells, enter the silo diameter, the filled height, and the height of feed left on January 15 (other values can be left at default levels).

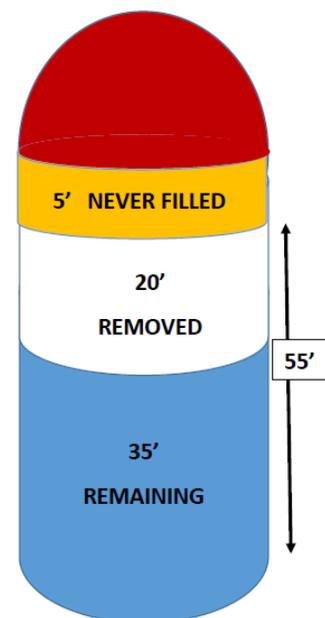
Step 2: Scroll down to the bottom of the sheet where it gives the estimated the tons of silage remaining as tons of dry matter (DM) for either a top loading or bottom loading silo.

Step 3: Divide by 0.35 to convert silage tons of dry matter to standard 65% moisture.

Step 4: Multiply by the FSA conversion factor. Corn silage is 7.94 bu/ton (at 65% moisture) and 4.08 bu/ton (at 65% moisture) for oatlage.

Example: Determine the tons of wet silage for a 20 ft X 60 ft silo filled to a settled depth of 55'. On January 15, 2020, the top 20 ft had been removed, so the silo had 35 ft remaining.

1. Enter 20 ft diameter, a filled height of 55 ft and a height of feed left in silo of 35 ft.
2. Scroll down, the tool reports 137 tons dry matter (DM) for the filled silo and 33 tons DM removed for a top unloading silo, leaving $137 - 33 = 104$ tons DM inventory on January 15, 2020.
3. Convert tons DM to 65% moisture by dividing by 0.35 = $104/0.35 = 297$ tons of wet silage.
4. Convert to grain equivalents using FSA conversion factors:
 - Corn Silage: $297 \times 7.94 \text{ bu/ton} = 2,358$ bu of Corn
 - Oatlage: $297 \times 4.08 \text{ bu/ton} = 1,212$ bu of Oats
 - Soybean Silage: $297 \times 5.00 \text{ bu/ton} = 1,485$ bu of Soybeans
 - Sorghum Silage $297 \times 5.56 \text{ bu/ton} = 1,651$ bu of Sorghum



- See the demonstration video explaining these calculations, starting at minute 3:55: <https://youtu.be/OxusEej5Jnl>.
- Silos that have been filled, fed from, but not emptied, and then filled again, can use: https://fyi.extension.wisc.edu/forage/files/2014/02/TowerSiloCapacity_wRefills_10-19-12PROTECTED.xlsx. For these calculations, see the demonstration video starting at minute 7:58: <https://youtu.be/OxusEej5Jnl>.