

# 2013 Double Crop N Rate Study

## Harvest Protocol

by Shona Ort

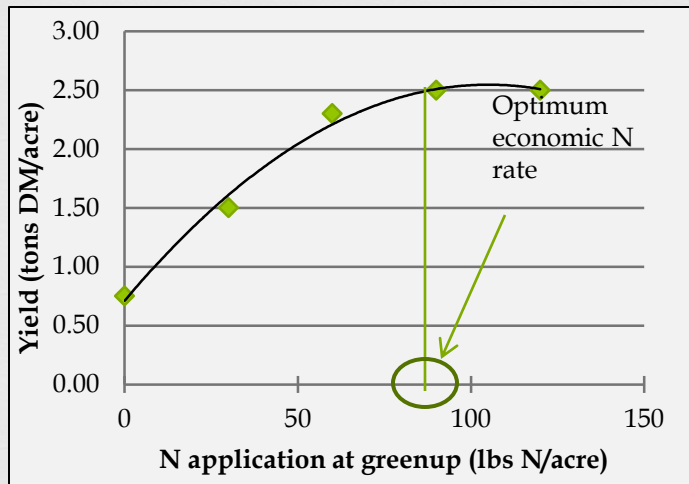


Nutrient Management Spear Program





# Project Goal



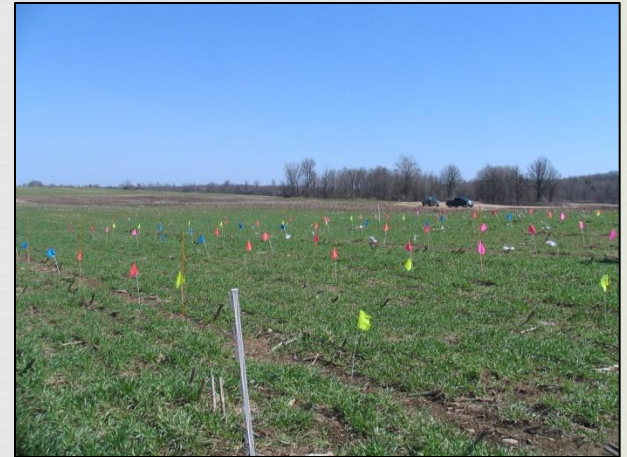
- To determine the nitrogen (N) rate needed to grow winter cereals planted after corn silage for forage harvest.
- 4 replications with a site of 5 different N rates.
  - 0 lbs of N/ acre
  - 30 lbs of N/ acre
  - 60 lbs of N/ acre
  - 90 lbs of N/ acre
  - 120 lbs of N/ acre
- Sites of 65 by 80 ft.



# Setup



- ❧ 45 Sites
- ❧ Setup spreads over about 1 month

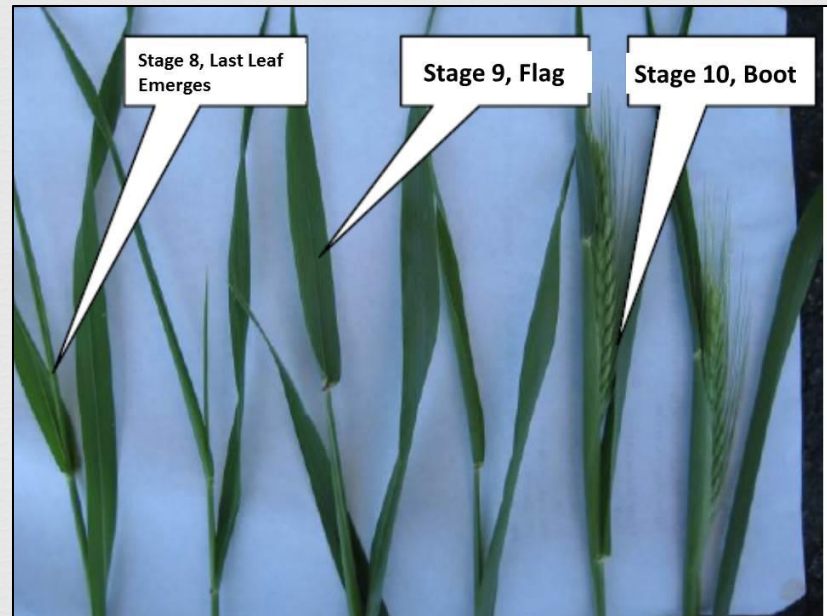




# Harvest Time



## Flag stage



<http://billsforagefiles.blogspot.com/2013/03/winter-small-grain-silage-fertility.html>



# Harvest Supplies



- ❧ 20 paper grocery bags
- ❧ 2 large lawn and garden bags
- ❧ Sampling frame (8 by 38.5 inches)
- ❧ 3 hand held grass clippers
- ❧ Gloves
- ❧ GPS (only if GPS coordinates haven't been taken already)
- ❧ Camera



# Harvest Supplies





# Prior to Harvest



- ✧ Give Shona a call so we know when you will be harvesting and can possibly have one of us there with you.
- ✧ Take pictures of field, entire site, each rep within a site, and any significant differences among the plots.
- ✧ Take GPS coordinates if not taken at setup time.

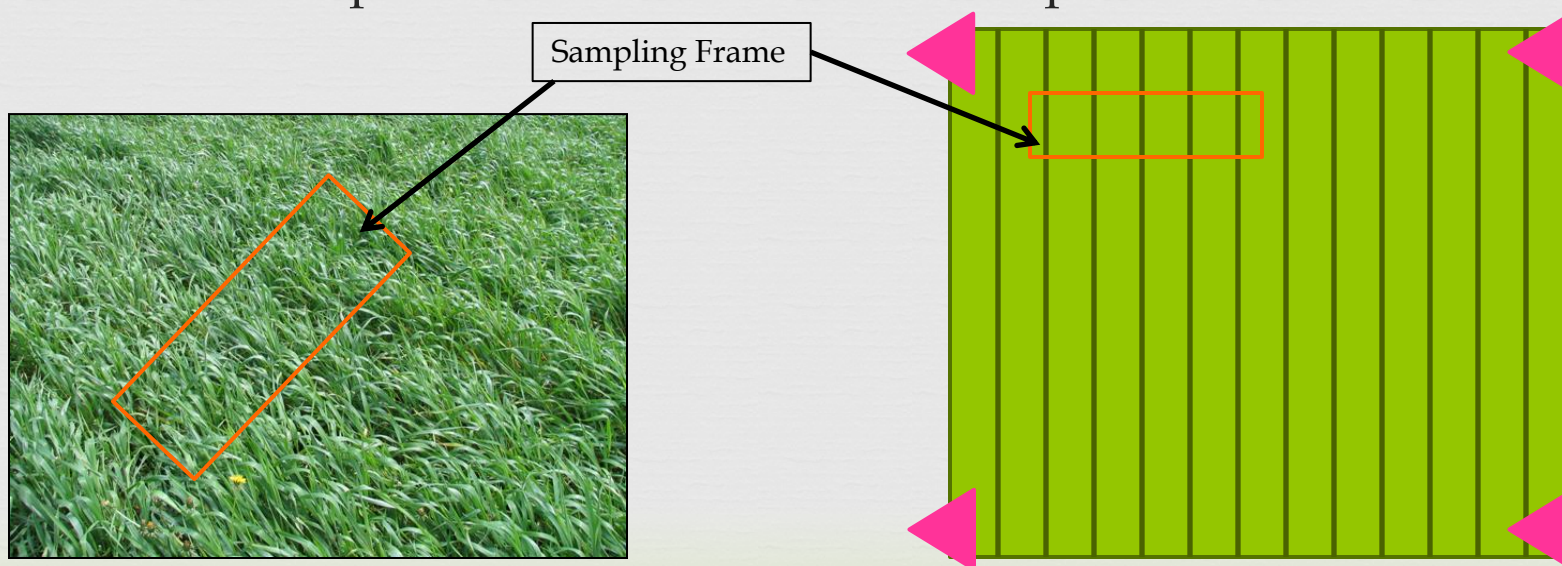




# Harvest

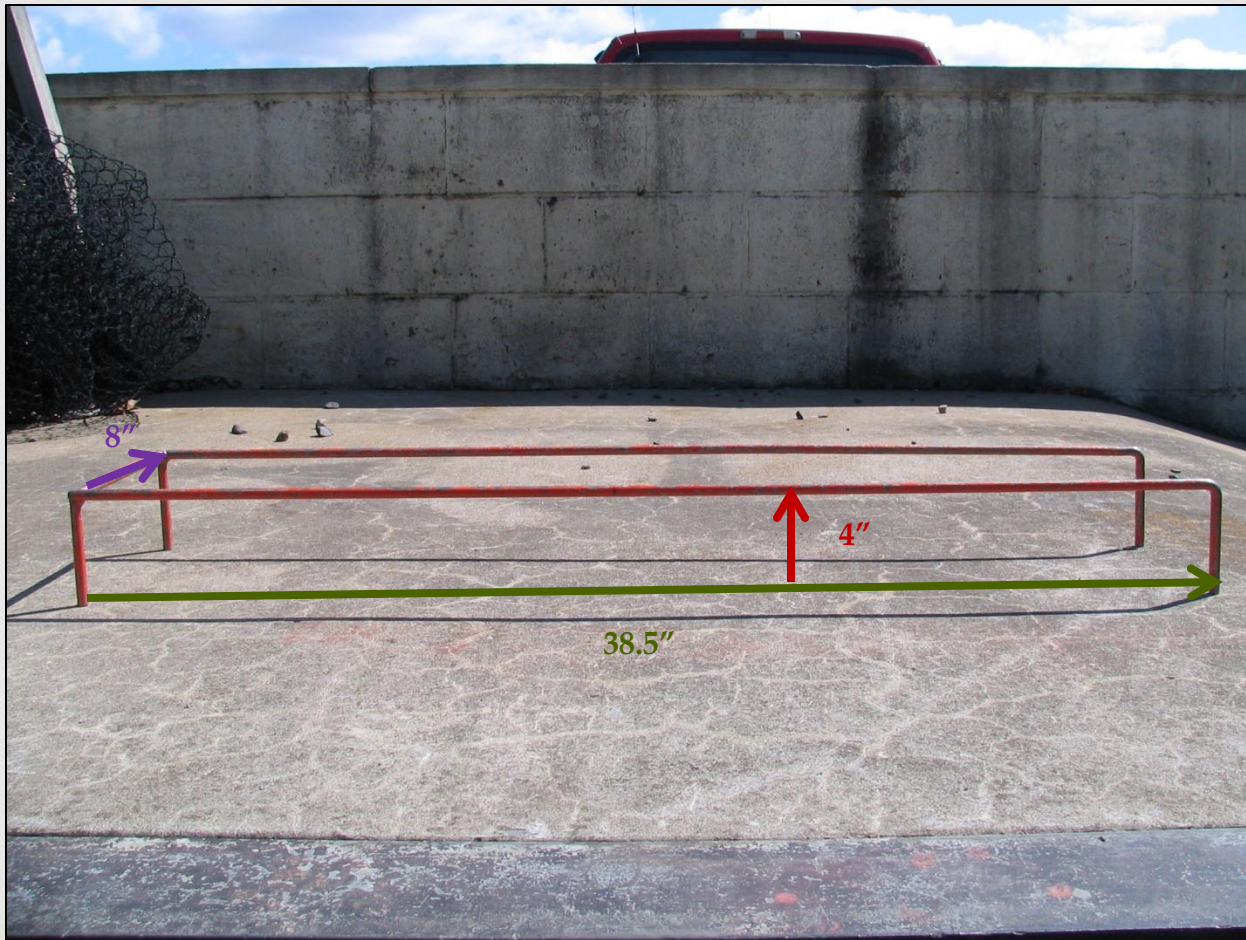


- ☞ Lay the properly labeled bag at each site
- ☞ Next take the sampling frame and place it down perpendicular to the crop rows within a plot, with the 4" legs facing down. Avoid unrepresentative areas within the plot.





# Harvest





# Harvest



- ✧ Next remove all plant biomass within the sampling frame at a height of 4'' with hand clippers and put into properly labeled bag.
- ✧ Use heavy gloves to reduce the risk of clipping fingers.
- ✧ Also avoid harvesting dead material and debris such as corn stalks in plots.

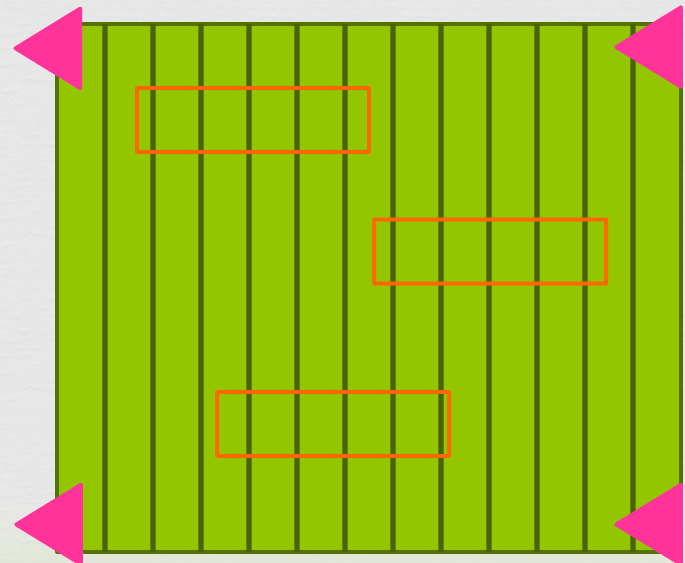




# Harvest



- Repeat placing sampling frame and harvesting all biomass another 2 times within a plot in order to obtain a total of **3 frames per plot**.

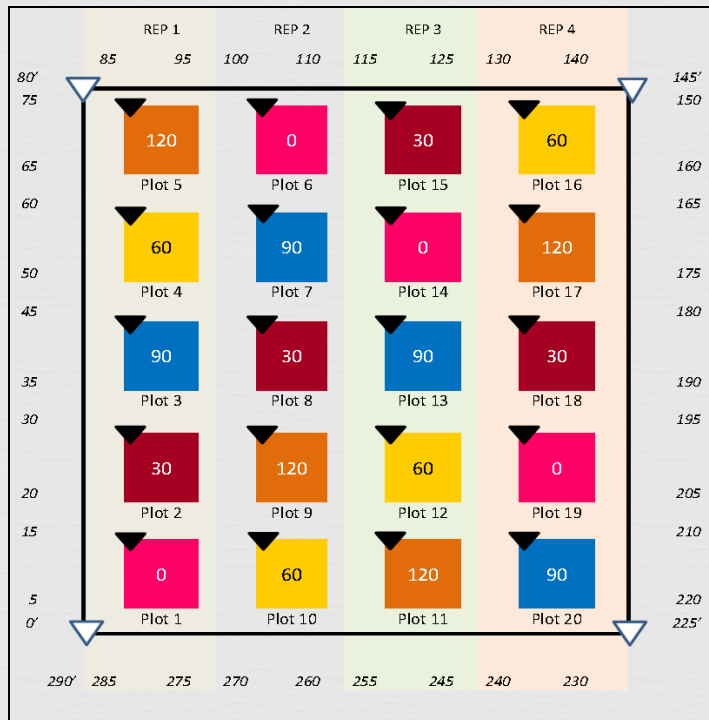




# Harvest



Repeat process just described for all 20 plots at a site.





# Finishing Harvest



- ❧ After samples have been harvested, remove all flags, driveway markers, and post.
- ❧ Ensure no harvest equipment is left in the field.
- ❧ Keep equipment until someone from NMSP can pick it up (or send it home with the NMSP person helping you with harvest).





# Finishing Harvest



- ❧ Complete field activity sheets with notes on harvest date, harvest stage, significant differences among plots, abnormalities, and participants.
- ❧ Call for pick up and transport of samples and supplies back to our laboratory if we are not out in the field with you.
- ❧ If samples cannot be transported back that same day, please place in a cool dark area and send as soon as possible.

If mailing is needed, send samples to:

Shona Ort

317 Morrison Hall

Dept. Animal Science

Cornell University

Ithaca, NY 14853

A screenshot of a Microsoft Word document titled "2013 Double Crop N Rate Study - Revised Setup Protocol". The document displays a form titled "Field Activities Record 2013". The form includes fields for "Location:", "Experiment:" (with the text "2013 Double Crop N Rate Study" entered), and "Date:". Below these fields is a large table with multiple rows and columns, intended for recording "Activity, Participants, Observations, and Notes". The Word interface shows the ribbon with tabs for File, Home, Insert, Page Layout, References, Mailings, Review, and View. The status bar at the bottom indicates "Page 6 of 7", "Words: 3,368", and a zoom level of "110%".



# After Harvest



- ❧ Forage samples will be dried and ground to pass through a 2-mm sieve.
- ❧ Forage samples will then be sent out to Cumberland Valley Analytical Services for C and N analyses and hopefully a full forage analysis (still looking for some additional funding to cover all sites)
- ❧ Once all soil and forage data analyzed, reports will be generated for each farm that participated in the study (you will get individual reports for each location you worked with).
- ❧ Results from the entire study will be summarized to start to develop a recommendation system for winter forages.



Questions?



Thank You!!





# Contacts



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## New York On-Farm Research Partnership

<http://nmsp.cals.cornell.edu/NYOnFarmResearchPartnership>

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There is great power from research information when field data are generated through well designed, repeated and widely implemented trials, with proper data collection and statistically valid analyses.

Consider being an on-farm research partner!

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Relevant Questions and Sound Science for Agricultural Profitability and Protection of the Environment