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AGRICULTURAL EXPERIMENT STATION
UNIVERSITY OF MISSOURI

The Weather and Hay Making

in Missouri



The Weather

You wake up some morning with the thought that this is the day to cut some hay. But you have a second thought. Will the hay get rained on? The radio says there is a possibility of showers tomorrow or the next day. Should you take a chance or should you wait a day or two?

It's no wonder people talk about the weather—especially during hay making time. In most cases the weather is what decides whether the hay is high quality or low quality feed. The faster you can get the hay up after it is cut, the better your chances are of getting good quality hay to feed.

That's why farm equipment manufacturers and University research men have been working on this problem. Hay crushers and crimpers are being sold. Hay drying equipment has been tested and improved. Methods for getting hay into storage on the same day it is cut have been worked out.

Perhaps you have been thinking about speeding up your hay making. If you have, you need some information. For example, you would like to know how much better your chances are for making good hay if you go

to another method of hay handling.

The purpose of this bulletin is to give you the "odds" on putting up good quality hay (not rained on) by the four common haying methods. The four methods and the approximate time required by each are as follows.

1. **Field curing** takes a period of *three days* of good weather or three "open haying days" in a row.
2. **Field curing after crushing or crimping** takes *two days* of good weather or two "open haying days" in a row.
3. **Crushing or crimping combined with a hay drier** can make hay in *one day*.
4. The hay can be put in a silo in *one day*.

The chances or "odds" of putting up good hay in these lengths of time were obtained by studying the weather records over a period of many years at several places in or near Missouri. Before the records were studied it was necessary to decide what an "open haying day" and an "open silage making day" were.

If you live in the vicinity of Columbia the bars on the opposite page tell you your chances of making good hay by each of four methods.

Illustration: You want to know the odds of making good hay or grass silage the first week of May. Look at the bars for the period of May 1-10 (the first set of bars). The lengths of the bars tell the number of times in 100 that you can get the hay in without rain getting on the cut hay.

This May 1 to 10 set of bars tells you:

1. That only 17 times in 100 you can successfully make hay by methods that require *three open haying days*. About one day in six is satisfactory.
2. That 28 times in 100 you can successfully make hay by methods that require *two open haying days*. About one day in four is satisfactory.
3. That 45 times in 100 you can successfully make hay if you put it up *the same day it is cut*. Nearly one day in two is satisfactory.
4. You could expect to be able to *make grass silage* about three days out of every four. The chances are 71 in 100.

Columbia Area

and Hay Making

in Missouri

EARL BORGMAN AND D. B. BROOKER

An *open baying day* had three requirements.

1. Less than 0.1 inch of rain fell on that day.
2. The sun had to shine more than 70 percent of the time between sun up and sun set on that day.
3. Less than one inch of rain fell the day before.

An *open silage making day* had only two requirements.

1. Less than 0.1 inch of rain fell on that day.
2. It must not have rained more than one inch the day before, two inches the day before that, three inches three days before, etc.

Weather records from six weather stations were studied. Columbia, Kansas City, Springfield, St. Louis, Hannibal, Mo.; and Cairo, Ill. were the chosen stations. For all the stations but Hannibal the records covered a period of 40 years. Only 20 years of records were studied for Hannibal.

The chances for making hay without the cut hay being rained on are shown for each location on the following pages. The chances are shown by bars. The longer the bar the better the chances are for making good hay.

The entire summer has been divided into 1/3 month

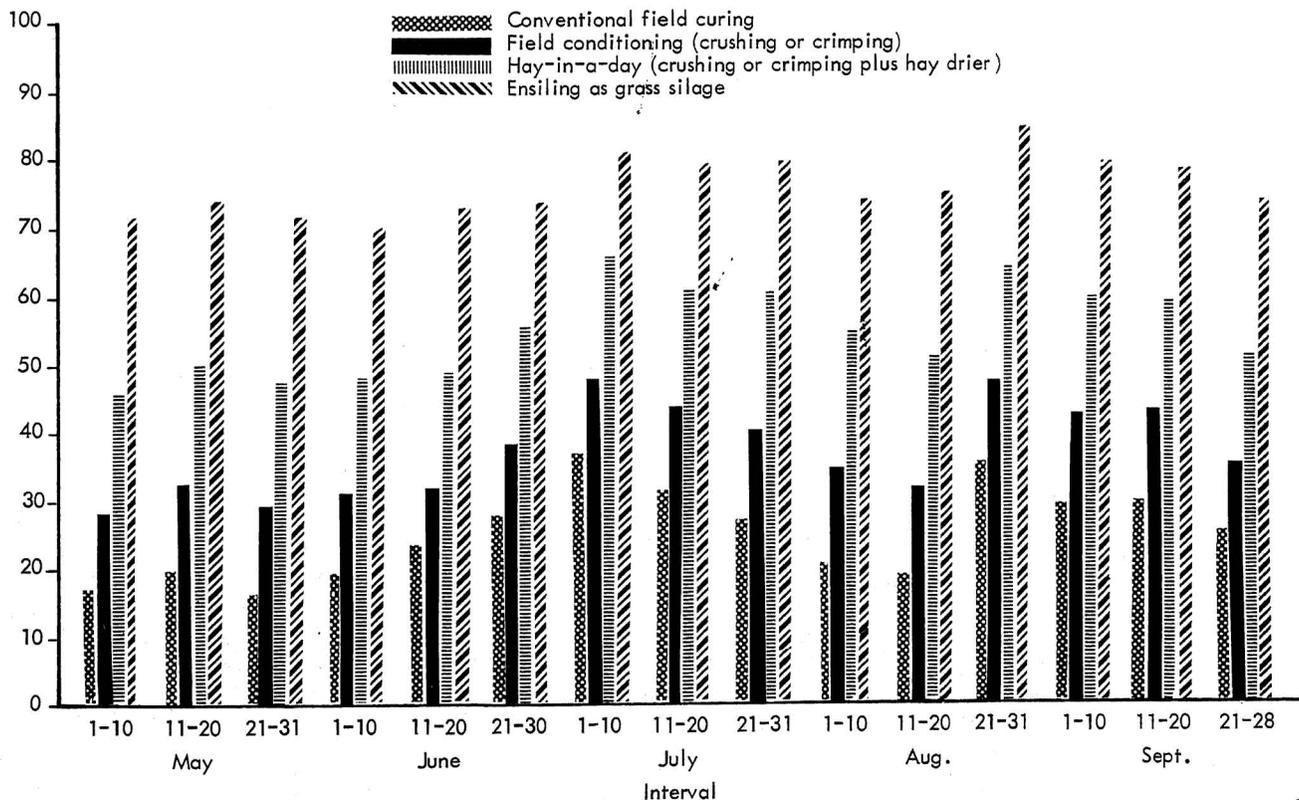
periods for each location. On the page opposite each set of bars an example is given to show you how you can find your chances of putting up hay by each of the four methods at any time during the summer.

The figures you read from the bars tell you what your chances are for finding a period of good weather long enough to get the hay in. For example, suppose the chances are 20 in 100 of making hay in a three-day operation for one of the 1/3 month periods. This means that over a period of years you will find that only one day out of five is suitable during this time of the summer. Saying this another way, if you cut hay every day during that 1/3 month period you would get good hay one time in five cuttings if you figured your successes over a period of years.

Of course, you can increase your chance for success for a particular cutting if you study the weather forecasts. In other words, you increase your chances of *finding that one time in five* by watching the weather. The shorter the period from the time of cutting to the time of putting up the hay, the better use you can make of the weather forecast.

Chances for Successful Forage Harvesting in Central Mo. (Columbia)

Probability of Success
(times expected in 100)



Kansas City Area

The bars on the opposite page tell your chances of making good hay by each of four methods if you live in the vicinity of Kansas City.

Illustration: You want to know the odds of making good hay or silage the first week of May. Look at the bars for the period of May 1 to 10 (the first set of bars). The lengths of the bars tell you the number of times in 100 that you can get the hay in without rain getting on the cut hay.

This May 1 to 10 set of bars tells you:

1. That 21 times in 100 you can successfully make hay by methods that require *three open haying days*. About one day in five is satisfactory.
2. That 32 times in 100 you can successfully make hay by methods that require *two open haying days*. About one day in three is satisfactory.
3. That 50 times in 100 you can successfully make hay if you put it up *the same day it is cut*. Nearly one day in two is satisfactory.
4. You could expect to be able to *make grass silage* about three days out of every four. The chances are 77 in 100.

Springfield Area

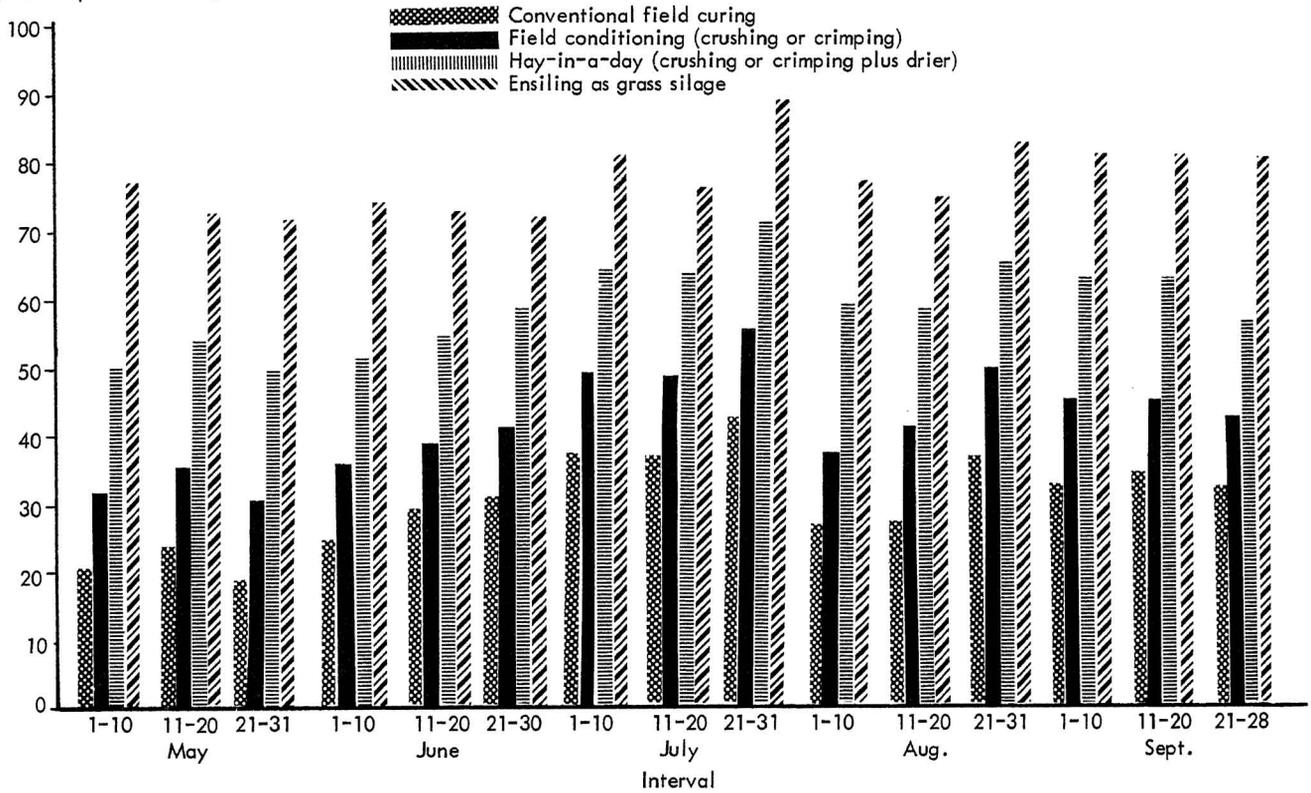
The bars on the opposite page tell you your chances of making good hay by each of four methods if you live in the vicinity of Springfield.

Illustration: You want to know the odds of making hay or silage the first week of May. Look at the bars for the period of May 1 to 10 (the first set of bars). The length of the bars tells you the number of times in 100 that you can get the hay in without rain getting on the cut hay. The May 1 to 10 set of bars tells you:

1. That 17 times in 100 you can successfully make hay by methods that require *three open haying days*. About one day in six is satisfactory.
2. That 29 times in 100 you can successfully make hay by methods that require *two open haying days*. About one day in three is satisfactory.
3. That 49 times in 100 you can successfully make hay if you put it up *the same day it is cut*. Nearly one day in two is satisfactory.
4. You could expect to be able to *make grass silage* about three days out of every four. The chances are 73 in 100.

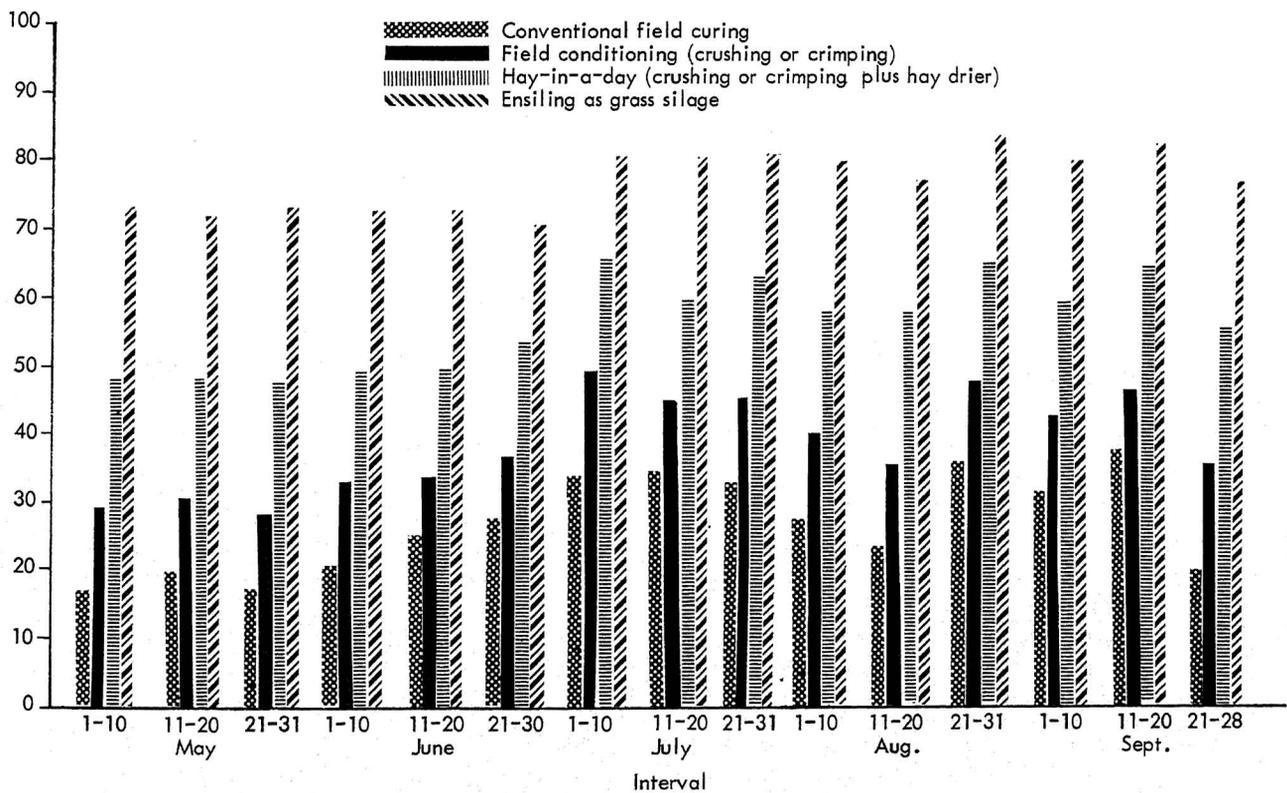
Chances for Successful Forage Harvesting in West Central Mo. (Kansas City)

Probability of Success
(times expected in 100)



Chances for Successful Forage Harvesting in Southwest Mo. (Springfield)

Probability of Success
(times expected in 100)



St. Louis Area

The bars on the opposite page tell you your chances of making good hay by each of four methods if you live in the vicinity of St. Louis.

Illustration: You want to know the odds of making good hay or silage the first week of May. Look at the bars for the period of May 1 to 10 (the first set of bars). The length of the bars tells you the number of times in 100 that you can get the hay in without rain getting on the cut hay. The May 1 to 10 set of bars tells you:

1. That 17 times in 100 you can successfully make hay by methods that require *three open haying days*. About one day in six is satisfactory.
2. That 27 times in 100 you can successfully make hay by methods that require *two open haying days*. About one day in four is satisfactory.
3. That 45 times in 100 you can successfully make hay if you put it up *the same day it is cut*. Nearly one day in two is satisfactory.
4. You could expect to be able to *make grass silage* about three days out of every four. The chances are 73 in 100.

Cairo, Illinois

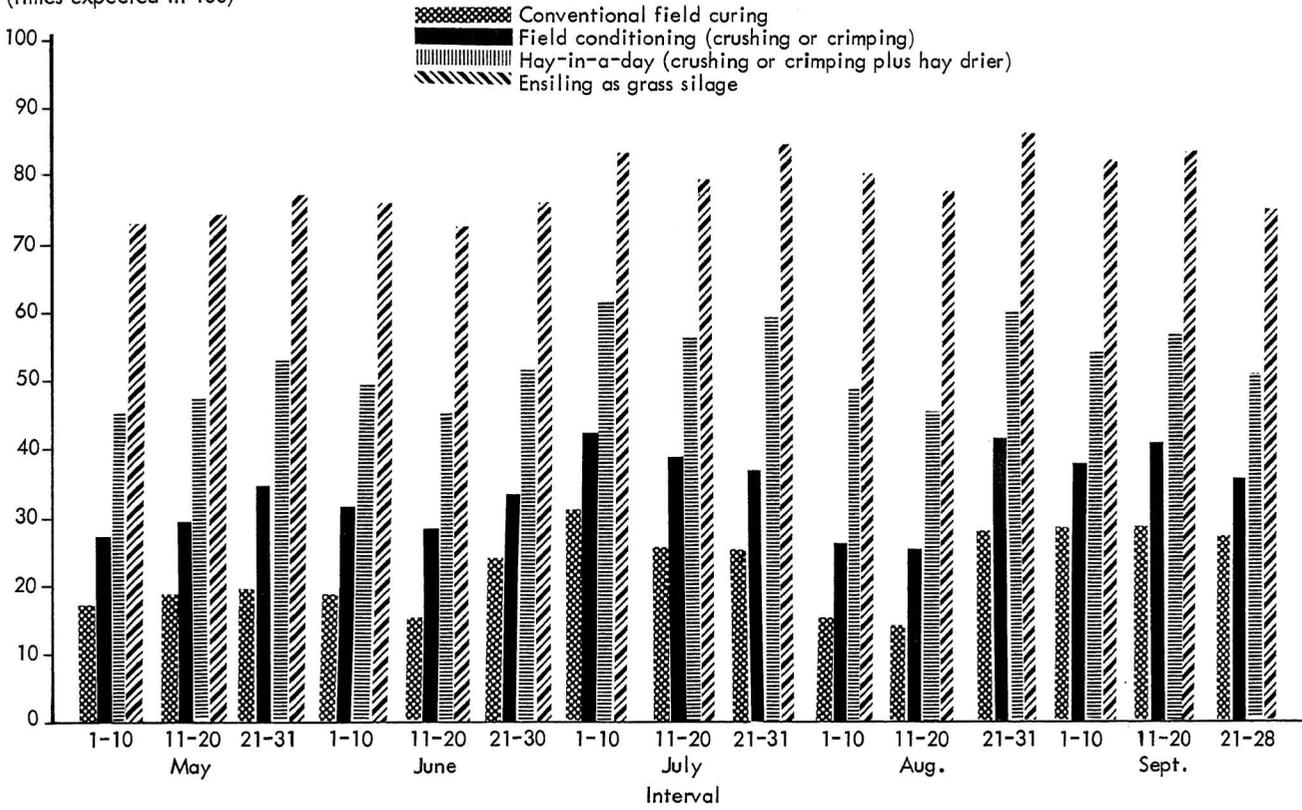
The bars on the opposite page tell you your chances for making good hay by each of four methods if you live in the vicinity of Cairo, Illinois.

Illustration: You want to know the odds of making good hay or silage the first week of May. Look at the bars for the period of May 1 to 10 (the first set of bars). The length of the bars tells you the number of times in 100 that you can get the hay in without rain getting on the cut hay. The May 1 to 10 set of bars tells you:

1. That 20 times in 100 you can successfully make hay by methods that require *three open haying days*. About one day in five is satisfactory.
2. That 32 times in 100 you can successfully make hay by methods that require *two open haying days*. About one day in three is satisfactory.
3. That 51 times in 100 you can successfully make hay if you put it up the same day it is cut. Nearly one day in two is satisfactory.
4. You could expect to be able to *make grass silage* about three days out of every four. The chances are 72 in 100.

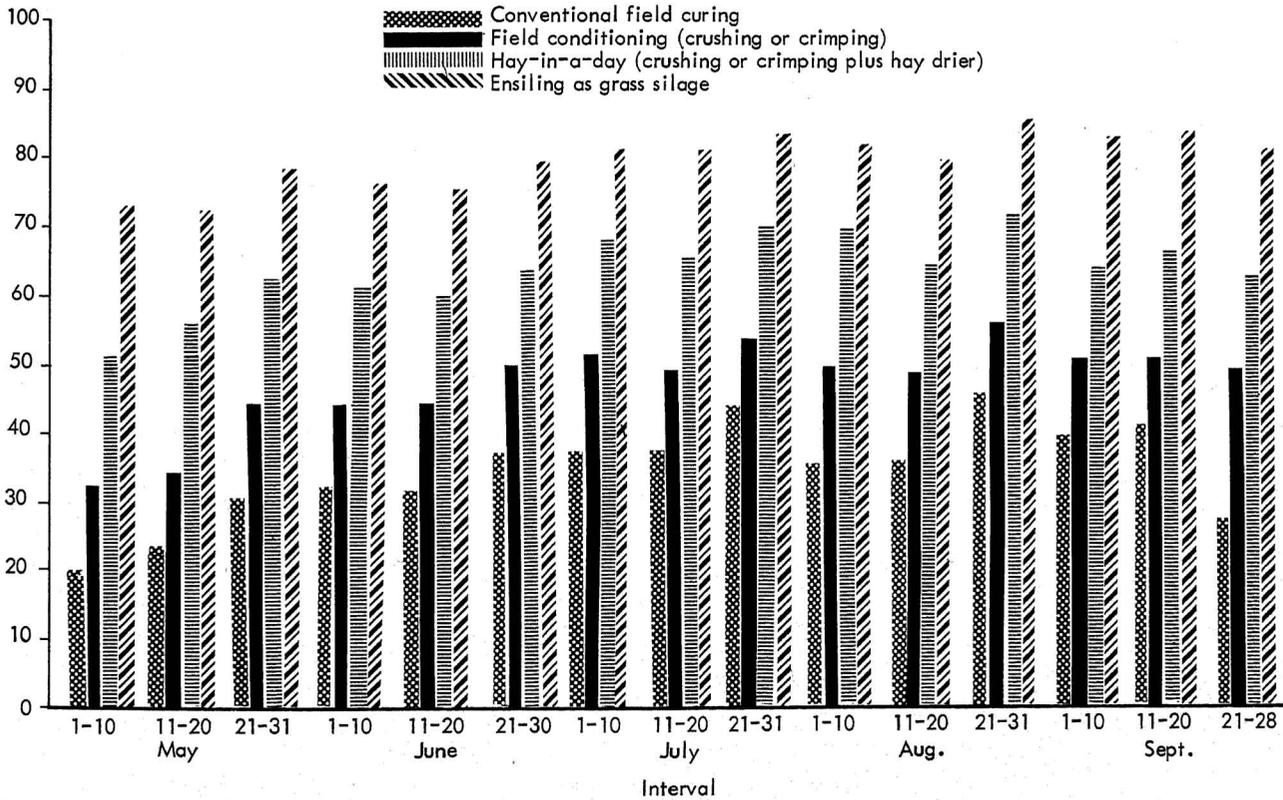
Chances for Successful Forage Harvesting In East Central Mo. (St. Louis)

Probability of Success
(times expected in 100)



Chances for Successful Forage Harvesting in Southeast Mo. (Cairo, Ill.)

Probability of Success
(times expected in 100)



Hannibal Area

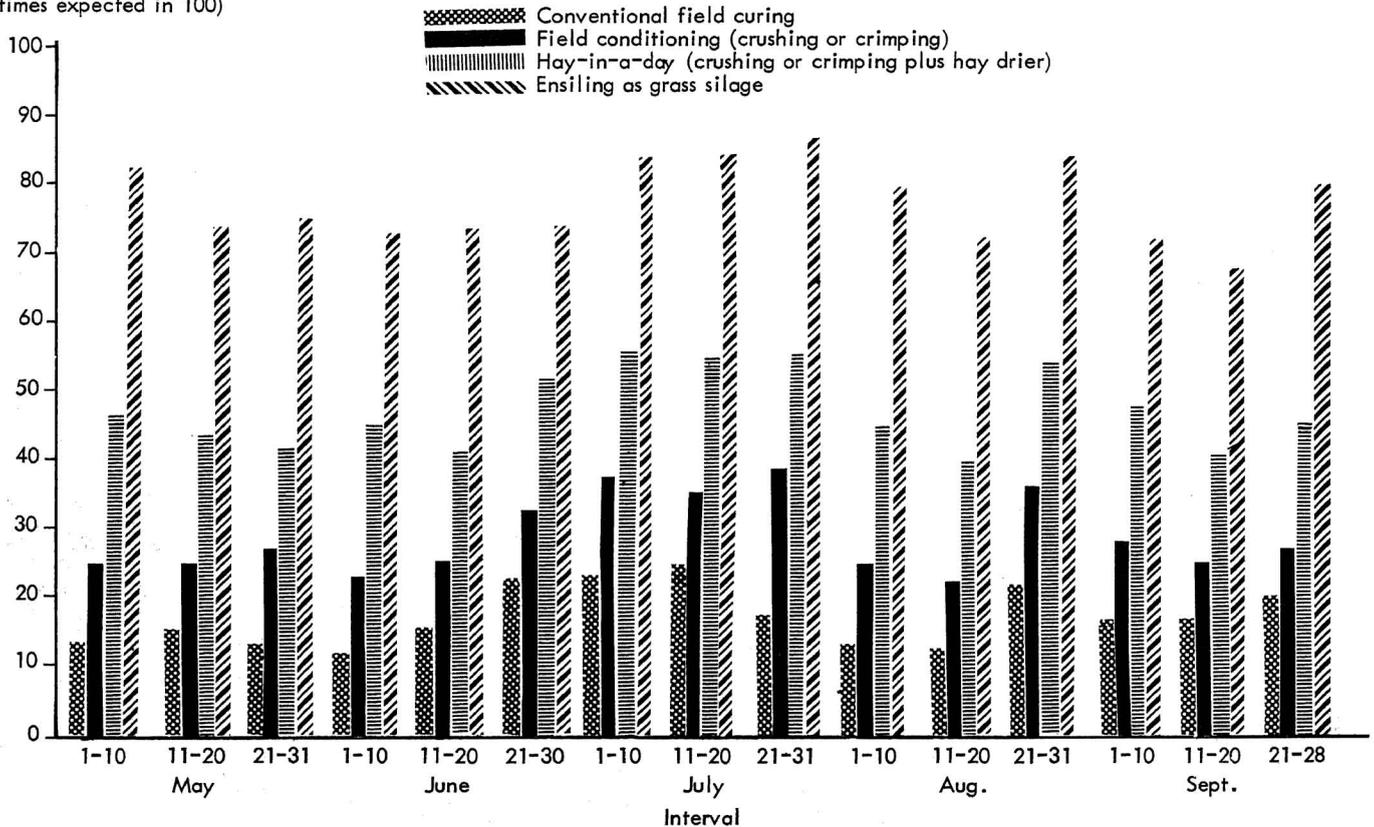
The bars on the graph below tell you your chances of making good hay by each of four methods if you live in the vicinity of Hannibal.

Illustration: You want to know the odds of making good hay or silage the first week of May. Look at the bars for the period of May 1 to 10 (the first set of bars). The length of the bars tells you the number of times in 100 that you can get the hay in without rain getting on the cut hay. The May 1 to 10 set of bars tells you:

1. That 13 times in 100 you can successfully make hay by methods that require *three open haying days*. About one day in eight is satisfactory.
2. That 25 times in 100 you can successfully make hay by methods that require *two open haying days*. About one day in four is satisfactory.
3. That 47 times in 100 you can successfully make hay if you put it up *the same day it is cut*. Nearly one day in two is satisfactory.
4. You could expect to be able to make grass silage about four days out of every five. The chances are 82 in 100.

Chances for Successful Forage Harvesting in Northeast Mo. (Hannibal)

Probability of Success
(times expected in 100)



Suggestions on Use of This Bulletin.

Study the information for your area. Notice the difference in the "odds" for making good hay by the various methods. Notice how these "odds" change during different times of the summer.

Considering buying a crusher or crimper? This should cut one day off your hay making time. In most cases hay is put up in two days when a conditioner is used. How much better will your "odds" be for good hay if you own a crusher or crimper?

How about drying equipment? All methods that make hay in one day use drying equipment. How much better are your "odds" with drying equipment? Don't forget to consider that hay made successfully in one day is better hay than hay made successfully in a two or three day period.

Do you put some hay in the silo? A study of the "odds" for different times of the summer will tell you which cutting should go in the silo. Notice that the "odds" for a successful silage operation do not change much over the summer. The odds on hay making do.

If you don't live in any of the areas shown: Weather information to determine "open haying days" or "open silage making days" as we have defined them wasn't available in your area. You can still use the bulletin to give you approximate figures. Notice that there is a noticeable *difference* in the "odds" of making hay by the various methods. You would expect similar differences in your area. Notice also that the "odds" for making good hay are better in late June and early July in all the areas studied than they are in May and early June.