

# DAIRY NOTES

UNIVERSITY OF CALIFORNIA

COOPERATIVE EXTENSION

KINGS COUNTY



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## Forage Notes:

### *Local Winter Forage Trial Results-*

Results of last year's forage trial are attached. The trial included two triticale cultivars, seven wheat cultivars and one forage mix comprised of oats, wheat and rye. Yields ranged from 14 to 22 tons per acre. Ordinarily, yields are reported on a moisture-corrected basis, but I have reported the yields on an as harvested basis this year. The field was cut in the boot to flower stage of maturity, which required swathing and field wilting for about one day prior to chopping. Field wilting complicated any kind of moisture correction. That is because different varieties dry differently because of windrow size. A big, tall variety with a huge windrow dries much more slowly than a short variety with a small windrow. The moisture correction would not be meaningful for comparing varieties unless the sample had been taken prior to field drying.

When reviewing the data, keep in mind that none of these forages have exactly the same maturity. They were all harvested on the same day, yet they were in various growth stages. The ideal growth stages for winter forage harvest are either boot stage or soft dough stage. In this trial we missed boot stage on all but two of the entries. One was X2210 triticale which was the least mature and one of the wettest (low DM %) entries. It also had the highest protein and lowest fiber level. This typifies boot stage

compared to later growth stages – nutritional value is higher, but yield is lower. The added nutritional value at boot stage comes at a cost, but depending on a grower's situation, that may be acceptable. In the case of this grower, the goal was to harvest early so that corn could be planted early. The X2210 triticale got off to a terrible start and had a poor stand. It would not be a good choice to plant based on just one year of testing.

Four of the wheats in this trial had already headed out and were flowering at harvest. **Flower stage is the latest stage one should consider for early harvest.** Sometimes the goal is to harvest at boot stage but that becomes impossible because of rainy weather or equipment problems. After boot stage, the crop heads out and then the grain heads produce flowers. Once flowering is complete, the grain kernels begin to fill with a milky fluid, (milk stage). When starch formation in the kernel is complete we say the crop is at soft dough stage. If flower stage is missed, **DO NOT HARVEST AT MILK STAGE.** The feeding value of the crop at milk stage is poorest, and studies have found that the forage is unpalatable (it doesn't taste good) to animals at milk stage. So if you miss the earlier stages, then wait until soft dough stage to harvest. For more detailed information about growth stages of winter cereals visit my website. There you can view photos to help you recognize each growth stage.

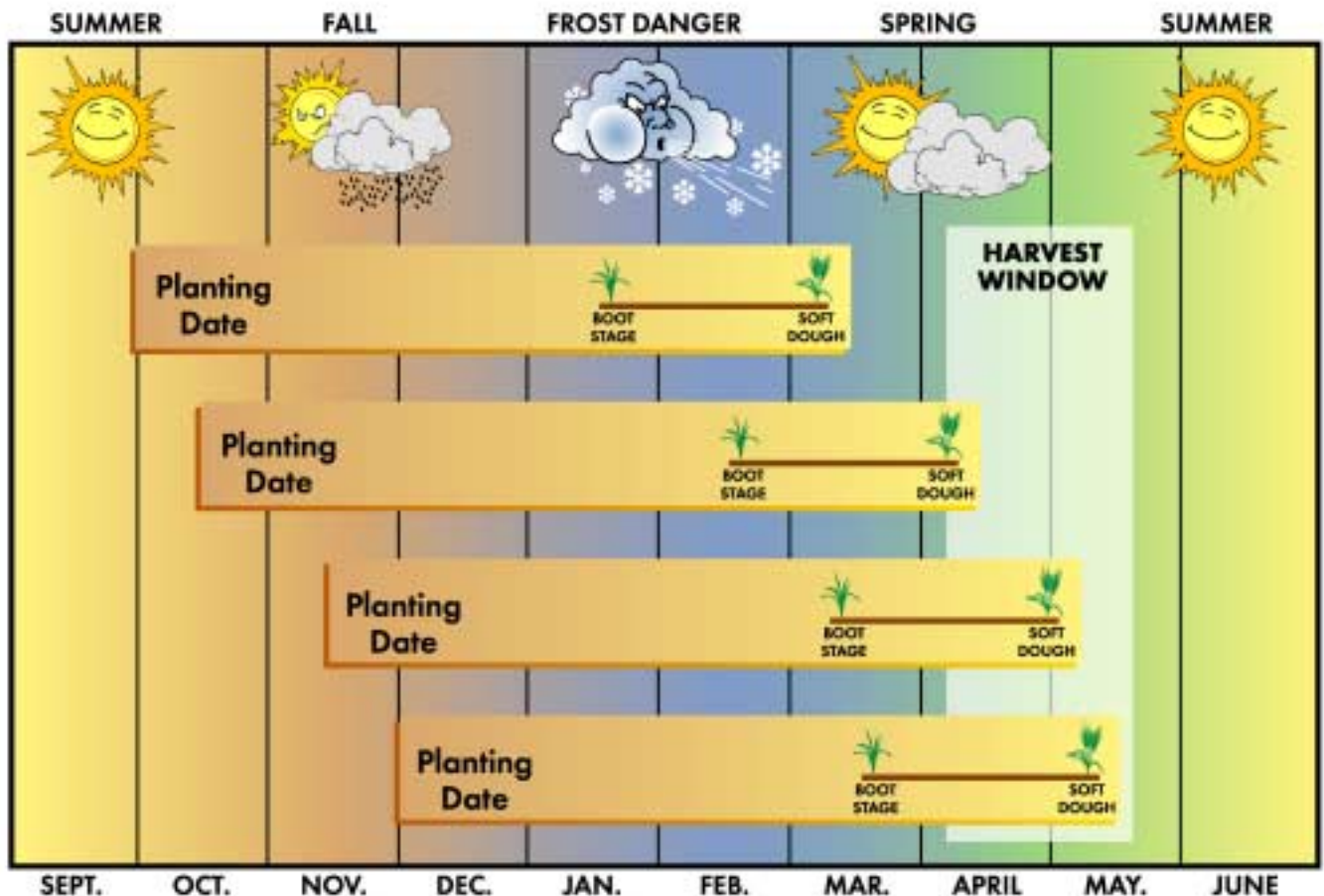
### ***Early Planting Is Risky-***

The best time to plant small grain cereal crops is mid-November through mid-December in our area. Many growers planted too early last year and suffered yield loss from frost, insect, disease and lodging damage. The following calendar developed by Resource Seeds gives a good visual picture of the problems that can be encountered from planting too early

## **Consider the Risks of Early Planting Cereal Forage**

- Frost during late boot and heading can reduce yield and quality.
- Aphid populations build up in early planted cereal and cause yield reductions in the spring.
- Lodging is increased because of excessive plant growth in the fall.
- Leaf diseases are a greater threat with early planting.

## **Calendar for Soft Dough Harvest**





**University of California Cooperative Extension  
2002 Kings County Winter Forage Variety Trial**

*Carol Collar, UC Farm Advisor  
Bill Longfellow, Grower/Cooperator*



Planted December 7, 2001  
Harvested April 11, 2002

Cultivar	Cereal type	Growth stage at harvest	Tons/acre as harvested	% DM at harvest	Plant ht. (in)	% CP	% ADF	% NDF
Baglietto Forage Mix	Oats, Wheat, Rye	Heading	22.2	17.6	46	13.4	36.3	53.8
Trical 105	Triticale	Heading	21.5	19.8	44	15.5	38.7	61.0
Kama	Wheat	Heading	20.1	21.1	34	14.3	37.3	59.6
Baglietto SSK	Wheat	Flower	19.1	23.4	37	14.4	37.4	57.9
X2210	Triticale	Early boot	18.1	18.9	41	16.3	36.7	53.1
Dariel	Wheat	Boot	18.0	22.0	33	14.6	36.9	55.6
Express	Wheat	Heading	17.6	25.1	35	13.7	38.6	58.9
Bonus	Wheat	Flower	17.4	23.1	33	14.9	37.0	59.8
Zancor *	Wheat	Flower	16.5	24.2	38	14.0	37.7	58.3
Brooks	Wheat	Flower	14.5	28.0	34	13.4	36.0	56.7
<b>Mean (3 reps)</b>			<b>18.5</b>	<b>22.3</b>	<b>37.5</b>	<b>14.5</b>	<b>37.3</b>	<b>57.5</b>
<b>CV %</b>			<b>8.81</b>	<b>7.82</b>	<b>3.4</b>	<b>7.56</b>	<b>2.45</b>	<b>2.36</b>
<b>LSD(.05)</b>			<b>2.822</b>	<b>3.024</b>	<b>2.182</b>	<b>1.892</b>	<b>1.580</b>	<b>2.349</b>

*Previous Crop:* Cotton

*Plot size:* 20' X 1300', 3 replications

*Planting rate:* approx. 150 to 200 lbs./acre

*Irrigations:* Two irrigations with dairy lagoon water

*Herbicide:* 2,4-D in mid-February

\* = non-certified seed

**Comments:** Very little disease or insect pressure. Slight rust on Brooks. Plant maturity ranged from early boot to flower stage. There was no lodging at this growth stage. Field was wilted for one day - swathed on 4/11 and chopped on 4/12. Percent dry matter at harvest represents the chopped forage on 4/12. Call Carol Collar at 582-3211 ext. 2730, or email [ccollar@ucdavis.edu](mailto:ccollar@ucdavis.edu) if you have any questions about this data.

DM = Dry matter; CP = Crude protein; ADF = Acid detergent fiber; NDF = Neutral detergent fiber