

ALFALFA HAY CROP DATA SHEET

Alfalfa Hay Water Management (Established)

SOIL: Coarse and Fine Textured

EFFECTIVE PRECIPITATION: The portion of the rain that satisfies a part of the crop water use will depend primarily on the amount of plant cover. Only about 30-50 percent of the rainfall is effective when the soil surface is exposed after cutting and almost 90 percent of the rainfall is effective when the crop canopy is complete and the soil is covered.

ROOT ZONE: The root zone of established alfalfa hay normally exceeds 6 feet when there are no restrictive conditions. However, restrictions can frequently limit the root zone to 4 feet.

ALLOWABLE DEPLETION: Alfalfa can endure quite dry soil conditions, but production will suffer because vegetative growth is directly related to water use by the plant. A practical allowable depletion for fine textured soils is 50 percent and for coarse textured soils should be limited to 60-70 percent.

IRRIGATIONS:

First: A mid-February irrigation that refills an unrestricted root zone will satisfy the water requirement until after the first cutting in mid-April during years of average rainfall.

Season: On fine textured soils a single irrigation seven days after cutting will carry the crop with maximum production if the root zone is refilled. This irrigation will have to place approximately six inches in the root zone. When the soil will not take seven inches in a single irrigation then two irrigations placing 3" each should be scheduled between cuttings or the irrigation should be restarted immediately after the hay is removed and stopped only to allow the soil to dry for the next cutting. The next irrigation should begin at the point where the last one started. When it is not possible to complete two light irrigations between cuttings an option is to split the field and stagger the harvest. The option to stagger harvest should be considered under restricted root zone conditions.

On coarser textured soils a single irrigation between cuttings will not maximize production because the root zone cannot hold the 8 inches of water the crop will require during these periods. A practical strategy is to apply two irrigations that will add 4 inches each to the root zone. The first irrigation should occur about 7 days after cutting and the second irrigation should be discontinued 5 days before the next cutting and restarted at that point 7 days after cutting. When it is not possible to complete two irrigations, an option is to split the field and stagger the harvest.

WATER BUDGETING:

Average Seasonal ET (N/C/S)	3.6/3.8/3.4'
Average Effective Precipitation	0.5'
Average Salinity Control	0.5'

Water Use, in*	Jan	Feb	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct	Nov	Dec	Total
Northern	0.3	0.7	2.7	3.2	5.6	6.1	6.4	6.5	6.0	2.9	2.2	1.1	43.6
Central	0.3	0.9	3.3	3.2	5.6	6.4	6.9	6.5	5.4	4.5	1.8	0.4	45.2
Southern	0.3	0.8	2.9	3.1	5.1	5.8	6.3	6.2	4.5	4.3	1.1	0.5	40.6
Deliveries-%		15			15	15	15	15	15	10			100

* Note: Coarse soils can have 10% greater ET.