

Alfalfa in the San Joaquin Valley

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The San Joaquin Valley begins in the north at San Joaquin County and extends 250 miles southward to Kern County. The San Joaquin Valley occupies 50% of the state's alfalfa acreage with 525,000 acres in production. Seasonal production begins in April and extends to November with weather permitting. Depending on market needs and variety five to seven cuttings are harvested in this time frame. Alfalfa has been planted in every month of the year but preferably seeded in the fall (September - November) or spring (February - April).

There are a number of different micro-climates associated with valley hay production. The valley floor is Mediterranean in climate with mild winters and hot summers. Rainfall averages 15 inches at the north to five inches in the south. Along the eastern edge of the valley alfalfa is found growing in alluvial soil pockets in rolling hilly terrain. Advances in varieties, tillage and irrigation equipment are allowing areas once thought to be non-farmable as highly productive. On the west side of the valley exists a unique area referred to as the Delta. The region includes mostly San Joaquin County but also extends into Contra Costa and Sacramento Counties. Many of the farming tracts are islands ranging in size from 500 to 5,000 acres. Many are true islands, completely surrounded by water ways. There are approximately 1,000 miles of waterways that wind through this area that form the Delta Islands. Much of the farm land is below sea level causing a high water table and an irrigation challenge to growers. Thirty percent of the delta soils are made up of organic matter principally tules, cattails and other aquatic weeds which grew there over the centuries. Approximately 10% of the delta is in alfalfa hay production with a trend of increased acreage in the future.

Varieties

Dormancy of alfalfa varieties varies from north to south. In the south exists non-dormant types with extended growth time to fit the longer season. In the north, both semi and intermediate dormant types are preferred for the shorter season. Heavy clay type soils which stay saturated longer with rainfall also lend themselves to more dormant type varieties.

Most growers prefer to cut at 26-28 days in the south and 30-32 days in the north, although this often varies by the economic demand for high test dairy hay. Varieties are selected for the ability to resist certain pests that are known to be a problem in the area. In sandy type soils where root-knot nematode and anthracnose are more common, resistant varieties to these pests are considered. In heavy soils, phytophthora root rot or stem nematode resistance is an important factor. Alfalfa is an important crop in a diversified farming rotation program and the length of time stand remains is predicated on production yields and other main crops grown. Where cotton is the main crop, stands are removed in three years. In other areas four to five years are the norm.

Pests

Disease, weeds, and insects are always a constant threat to production, quality and longevity. Varietal resistance plays a major role in pest management. The proper variety selected and careful management will greatly reduce the need for pesticides. Most pesticides are applied in late winter for the Egyptian Alfalfa Weevil and aphid. Most fields are treated in the winter for weed control. Root-knot nematode can be a severe problem but availability of cost effective nematicides do not exist. Verticillium wilt has not been a problem in the valley.

Water and Irrigation

Most alfalfa in the valley is flood irrigated in boarder check design. In the southern end surface water is furnished by local irrigation districts and/or state or federal water projects. The northern counties also utilize surface water as well as ground water pumping.

In the Delta region, irrigations are often made by pumping water out of an island to maintain a subsurface water level of three to five feet. Most farms are below sea level with constant water pressure that give way to underground subbing.

Water costs on alfalfa range from \$2 to \$50 per acre ft. The average water costs for irrigation district is \$25 per acre ft. and ground water pumping costs average \$35 per ft. Alfalfa hay requires 4 acre ft. of water for a full season production; therefore water is one of the highest expenses incurred in alfalfa growing. In years of lower hay prices as much as 30% of the sale price/ton can be allocated to water costs.

Marketing

Valley hay growers market their hay in three general categories: Marketing associations or grower cooperatives, private brokers and grower sales, or private treaty. All three methods are successful and are usually determined by the grower's size, crop diversity and time commitment he/she can invest into alfalfa hay.

Valley alfalfa is largely sold to two distinct market places, dairy and livestock. By far the principle users are dairies for milk producing cows requiring a high quality and high TDN hay. Most valley counties alfalfa will meet dairy quality standards in four of the six or seven cuttings within a season. Hay produced in the peak of summer will often fall short of the TDN required and this hay either stored for off season sales or channeled to other type livestock. With prices of dairy hay receiving as much as \$40/ton premium, growers are shifting to varieties and cultural practices that will allow opportunities to capture that market.

Future

The future of San Joaquin Valley alfalfa hay is certain to face some difficult challenges. Seven years of drought with state and federal water allocations being reduced to west side growers, is certain to negatively impact alfalfa acreage. Alfalfa's high water requirement needs will be subject to public scrutiny and to some degree fall victim to

declining water resources.

Growers will take a closer look at long term commitments needed for alfalfa as compared to other crops. There is no question that alfalfa hay will remain a #1 forage crop to the growing dairy industry in the central valley. The question remains are users prepared to pay the price?

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