

Safflower Production in Cache County

Northern Utah residents have likely noticed Safflower, a colorful yellow or orange flowered plant growing in many cultivated fields. Safflower is a member of the sunflower family. This highly branched, herbaceous, thistle-like annual, with many long sharp spines on the leaves grows from 15 to 30 inches tall. Depending on environmental conditions and variety planted each branch usually has from one to five flower heads, each containing 15 to 20 seeds.

Safflower is grown mostly on arable dryland following wheat or barley. An increasing number of irrigated acres are also being planted. Yields vary from 500 to 4000 pounds per acre, depending on a variety of factors. A typical price is .20 to .30 cents per pound. Safflower is one of the last plants to be harvested at the end of our growing season.

Area farmers have found this plant can provide reasonable economic returns and be a great option in crop rotations, especially where weeds such as jointed goatgrass have become a problem. Sonolan herbicide, applied pre-emergence, has proven effective in controlling most annual grasses and broadleaf weeds in safflower fields. Safflower's deep tap root also gives it an unusual ability to extract water from the soil when rainfall or irrigation water is limited. Obviously, safflower is more tolerant to drought than small grains.

Safflower is typically planted in late April or early May. Recommended seeding rates are 15-25 pounds/acre on dryland and 20-35 pounds/acre on irrigated land. Row widths vary from 6 to 30 inches with seeds being planted ½ inch deep in a firm seedbed. Seedlings generally emerge in one to three weeks with early seedling growth being rather slow. A young plant spends two or three weeks in the rosette stage while growing leaves. Temperatures as low as 20 degrees are tolerated by safflower plants while in the rosette stage. The plants are very susceptible to frost injury from stem elongation to maturity, but Cache Valley temperatures are usually warm enough by then. Fully grown safflower is extremely wind resistant, with few losses from lodging or shattering.

Safflower oil is often sold into the health food market because it is unsaturated, having high linoleic and oleic acid levels. A health conscious population has created the most significant market for safflower oil as salad oil, margarine and cooking oil. It usually commands a premium price among edible oils.

Much of the safflower grown in our area is sold under contract and is used for birdseed. The birdseed market caters to racing pigeons, parrots, other pet birds, gerbils, hamsters, and to other commercial small animals. Seed must meet stringent standards of quality to qualify as birdseed. Requirements to command a premium price include seed that is uniformly snowy white in color, large, and free from pappus (bristles at the end of the seed).

Some safflower varieties are being developed for use as a livestock feed. Safflower meal is the high protein byproduct remaining after extraction of the oil from safflower seeds. Meal from de-hulled seeds is a high quality protein supplement, similar to canola meal, but with slightly more protein and energy. The composition of whole safflower seed is roughly comparable to cottonseed, being higher in fat and lower in protein.

There is increasing evidence that whole safflower seeds may be a good source of fat for lactating dairy cows. Feed experiments last year at the USU Caine Dairy showed that replacing cottonseed with safflower seed at 3% of diet dry matter had no negative impact on feed intake and digestibility, rumen fermentation, lactational performance or milk fat yields. Many local producers are hoping we can substitute an increasing quantity of safflower to at least partially replace pricey whole cottonseed as a feed supplement for dairy cattle.

USU agronomists are assessing varietal performance in Northern Utah and are making additional comparisons between planting rates, row spacings, seeding dates, and irrigation protocols. The irrigated studies are at the Greenville Experiment Farm in North Logan while dryland studies are at the Utah State University research farm in Blue Creek.

Growers, researchers and interested citizens are invited to participate in a Safflower Field Day at the Greenville Farm on Wednesday, August 3, beginning at 10 a.m. In addition to assessing safflower research plots, participants will be interested in examining winter wheat and spring barley research plots. Additional details are available at the USU Cache County Extension office (752-6263).