Alfalfa Market News

New Mexico State University • Cooperative Extension Service • U.S. Department of Agriculture

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Hauled in Hay is Hanging onto High Pricing

Farm Hay Prices—August 10th **Price ($) per ton or by bale**

County	Contact	Premium Hay ($/ton)	Top Quality Hay ($/ton)	Other Hay ($/ton)	Contract ($/ton)	Cut Complete	Market Activity
Chaves	Shawn Dennis, County Agent	$185 small, $180 large bales. Some shipped out of state is $185-195.	$175-170/ton and $5.50 small.	$165 or less/ton, $4.50 small.	$160-155 on contract.	3rd is complete, just going into 4th. around rains.	Good.
Dona Ana	John White, County Agent	$6.50-7.00 small/ heavy, $185-200 per ton.	$175-185/ton delivered, $6.50-5..50 for small bale.	$175 or less, round bales $85, small at down below $5.50.	$3.00 to $7.00 small, $135-190 or more contract	80% 5th cut, 20% 6th cut with fields beginning to flower without cut due to rains..	Strong.
Eddy	Woods Hough-ton, County Agent	$180 and up per ton small; $170-big bale.	$170 small bales and $170-big bales	Varies—check with suppliers, generally $150-155	$145 to 140 with demand increasing.	100% 5th, 40% of 6th cut. Rains none to up to 1.25 inches.	Strong.
Guadalupe	Geno Lujan, County Agent	$6-7 per small bale. $180 per ton for small bales.	Varies, ask your supplier for pric-ing and quantity.	$120 per ton. Warm, humid conditions in some areas of the Pecos River.	$6-7 for premium custom baled hay.	3rd cut is 50% complete this week. No insects but grass burs still a problem.	Moder-ate.
San Juan	Gary Hathorn, County Agent	$200 per ton pricing currently. Demand good.	$150-200 per ton. Scattered showers making short supplies.	$85-135 per ton.	Varies.	60% of the 3rd cut is complete in south, none north.	Good.

Hay supplies are tight in the eastern United States. Much of TX, AL, GA, MO, WI, IA, IL and even areas of AZ and CA are limited on hay. Southern Plains states had scattered, light rains.

Hay Supplies Remain Very Tight

Statewide. Even with scattered rains to the states east of New Mexico and into the Midwest, early drought conditions have taken their toll on farmers across the crops. In particular, hay supplies have dwindled to the point that growers that have provided supplies locally in these states, are themselves using the majority of their own supplies—if available and if they have not sold out of the cattle business. One comment in Alabama was that they were currently feeding hay—where supplies could be found—like it was January there. In an internet conference out of Alabama on the drought conditions on August 9th, farmers were reporting losses that ran from 60 to 100 percent losses in hay, 60 to 80 percent losses in corn, 40 to 80 percent losses in cotton, herd thinning and sales due to lack of feed supplies with possibly 40 to 60 percent of silage production also being lost across the state and possibly peanut losses from 40 to 60 percent. Right now they are hoping that some scattered rains can keep coming back just to be able to plant some cool season grasses for possible pasture options this next year. This is also being heard in other states. Central Texas is in dire straits with very limit moisture stressing crops and the slight showers up in the Texas Panhandle around Lubbock hasn't made much difference in the dryland cotton there. Even the Midwest is striving to remain positive—some showers may have been received in parts of Iowa, Illinois and Indiana during corn silking and tasseling but the verdict is still not settled on possible losses to yields this year. Wisconsin, too, that normally maintains fairly decent hay supplies in the southern third of the state due to the Great Lakes effects are showing drought conditions. Emergency suggestions on economic cutting height and limiting hay cuttings are going out to farmers from Extension there. Only one or two cuttings and those usually not heavy have been cut in the area. Insects are also being seen in some of the areas that is adding insult to the problems. Armyworms were reported as moving in many of any fields not abandoned in Alabama during the drought report yesterday. Some of the crops in these areas are turning out early such as limited hay and cotton production, while others are late due to a later planting on some crops such as peanuts. Some of the cotton was reported at the Alabama drought conference as shorter than the cutterbar on the Upland cotton grown there. Some fields have been abandoned. As the showers stalled over New Mexico these last few weeks, Arizona and California also have had hot and dry conditions. Just recently, some of the rains have moved west to over the Four Corners regions and further west. Hang onto your hats, the commodity and livestock markets are about to run the roller coaster ride to the end of the season. Look to utilize soil moisture profile by planning now small grains, cool-season grasses and fall-seeded alfalfa for this next year.

Alert! Alert! Alert! Alert!

♪Watch insect pest populations bollworms, aphids and even lygis after rains.

♪ Utilize soil moisture sensors to determine when your next irrigation is needed—rains have helped out in many areas but more is needed in the northeast of the state.

♪ Consider soil testing needs for fall and when samples can be taken on drying ground—nitrogen losses may show with recent rains.

♪ Keep up with weed control, this fall and spring the cool-season weeds will be abundant.

♪ Continue to watch cotton for growth regulator needs to limit excess vegetative growth so plants retain bolls—if able to spray by ground or plane. Some flower drop occurred in areas in mid-canopy during the rains with mid-canopy losses from about 5 to 30 percent or so.

♪ Silage cutting is already going on in some areas with average tonnages expected.

♪ Some plant losses in wet, less drained areas is seen in alfalfa with phytophora showing up from earlier infections.

♪ Watch grasses cut for hay for nitrate levels if fields have high nitrogen levels in soil supplies.

♪ Consider hay supply needs for dairies in the Clovis-Portales area. Dry conditions there have hay supplies going out that way where available.

♪ Make decisions on rotations from now into the fall. Rotating from alfalfa should be based on yield potential of existing stands.

♪ Seek winter wheat seed and other small grains early this year to insure supplies for fall planting.

♪ Continue checking sorghum fields for midge, especially early to mid-morning.

♪ Peanuts have been pegging for some time and show good potential for a season with less

Reap Hay Even with the Rain Rap

Statewide. As in 2004, the sporadic rains have thrown a curve ball to many hay producers. Mold growth in hay here is not normal, but there are ways around the problem. The several fungi that cause mold in hay each have their own ideal temperature and moisture levels at which they grow best and they are present in both the windrow and in the bale. But, one thing is universal in preventing mold—low moisture hay. Hay at less than 25 percent moisture generally will not have a problem. Because New Mexicans generally can put up low moisture hay, a problem usually never exists under proper management. This year is different. Hay mower-conditioners can help a little. Other options at this time are simply hay desiccants, hay preservatives or bacterial inoculants. Hay desiccants using potassium or sodium carbonate allow a little faster dry down for hay. These work by partially dissolving the waxy cuticle on alfalfa stems, thus allowing the stem to dry down much faster. Generally. The effectiveness does varies with climatic conditions.

Hay preservatives, on the other hand, limit microbial growth that can contribute to heating (hay fires from too high moisture hay) while inhibiting mold growth thus allowing hay to be baled sooner. The most effective preservatives are organic acids such as propionate and acetate or derivatives from these products such as sodium di-acetate. Even anhydrous ammonia can be injected into hay after harvest to work as a preservative but unfortunately should NOT be done in alfalfa because of problems to the handler if a safe, confined system that is properly pressurized is not used (anhydrous ammonia binds with water quickly, and can rapidly bind to skin and eye molecules, literally drying or freezing these sites and leading to burns, blindness, comma or even death) and because it is unsafe for use on alfalfa hay and has only been used in the past on grass hay due to severe livestock health problems when using it—not other hay preservatives--on high-protein hay. All preservatives, however, can create equipment problems. Clogging up sprayers or loss of paint on unwashed equipment from these organic acids can occur. Preservatives must be used at the label recommended rates to be effective and safe.

Bacterial inoculants can also possibly reduce mold growth. Since there are some bacteria that inhibit fungi growth on plant material, there is the possibility that some inoculants could inhibit mode growth and out compete other bacteria that contribute to hay heating when hay is stored at too high a moisture. This, however, is often difficult to confirm, especially if handling and storage as well as weather conditions change the effectiveness.

Under poor drying conditions, 30 to 40 percent of a forage crop can be lost by the time the crop is placed into storage. Besides rain damage, wheel traffic compaction to alfalfa crown regrowth, bleached hay, excessive leaf loss, delayed irrigation as well as damage to regrowth from windrows shading can occur. Thus, in order to hasten drying time in the field and to be able to bale at higher moisture levels, drying agents, chemical preservatives or artificial drying may be implemented. Drying agent, also called chemical conditioners, are chemicals applied to standing forage before or at cutting. They increase the rate of water loss from cut alfalfa by breaking down a waxy layer on the plant stems allowing moisture to evaporate more quickly. Two traditional drying agents have been potassium carbonate and sodium carbonate. Potassium carbonate is generally more effective but also more expensive. Other forms of drying agents have used alkaline n-silicates and alkaline carbonates in combination with wetting agents. Propionic acid hay preservatives may also be used in combination with chemical conditioners.

Hay drying agents are most effective during good drying conditions—warm weather, low humidity, dry soil, light breezes and alfalfa with small stems and wide, thin windrows. These chemical conditioners can generally cut drying time down by 0.5 to 2 days. Many formulations recommend about 1/8th pound each of potassium and sodium carbonate per gallon of water applied or about five pounds per ton of dry matter harvested.

Sample to predict yield by clipping by hand at normal cutting height a three foot by three foot area and weighing the sample to the nearest tenth of a pound—repeat in a few scatter locations for replication and average the results. Then, calculate baled tons per acre by multiplying by 0.6—this assumes alfalfa at 75 percent moisture. Figure back for dry matter, or use a microwave oven to dry out the forage samples to determine dry matter weight.

Drying agents can be applied by sprayers mounted on the mower-conditioner using full-cone nozzles and a push bar to insure wetting and lessen overspray losses. Application may be as much as 30 to 50 gallons of water per acre—a reason drying agents have not gained more acceptance. Less may be applied with control droplet applicators. At the higher rates, the added moisture is very insignificant—one ton of dry alfalfa itself would be 4.5 tons wet-weight and contain about 870 gallons of water.

Chemical hay conditioning may cost between $2.00 and $10.00 per ton of hay produced. To equip a mower-conditioner or a tractor with a tank and spray equipment may be over $1,000 for parts and materials. Mixing and handling may increase mowing time by 10 to 20 percent. Over 75 cents per ton of hay may be added to your cost of equipment, labor and added fuel.

Conditions in some of the fields this year are looking like some the first week of July in 2004 as shown above. Parched soil needed the showers and in most areas, much of the moisture was readily taken up by dry soils. Improved pastures, rangeland and crops will benefit from the moisture if we can bypass any disease, insect or weed problems that might arise from this surplus moisture supply in many areas. The Clovis-Portales area has had limited moisture, however, and fairly dry conditions continue up in that area of the state.

Generally not worth the use in New Mexico, under poor drying conditions it may save a crop. Guidelines for using drying agents include: try to cut hay when the soil surface moisture is below 45 percent; move hay very carefully—leaf shatter can be high on alfalfa containing less than 50 percent moisture; rake into a windrow while hay still can retain leaves; and, turn windrows, if needed, when humidity is higher or dew reduces leaf shatter. You can also speed drying with or without drying agents by: having a much hay on the ground by midday when drying conditions are best; bale south-facing slopes first, they dry faster; lay swaths out wide for more air movement; taller stubble will aid drying by keeping hay off the ground; and, avoid deep, dense windrows so faster curing can occur. Manage for your market—some horse, dairy and beef markets will not take hay using drying agents and the extra preservatives although no problems have occurred from their use.

Finesse and Fine-Tune Hay Moisture to Prevent Fires

Statewide. When storing hay for the winter keep in mind that too much moisture in hay can cause quality loss or hay fire potential. Moisture in hay can be from rain or inadequately dried hay, high stem moisture when curing has not occurred correctly or from dew moisture when timing of baling is too early or late. High-moisture levels can lead to molding or to internal combustion and haystack fires. Moisture sampling in the windrow is essential to preserving high quality hay when rains make baling difficult. Make sure hay is sufficiently cured before baling. Hay at less than 15 to 20% moisture remaining at temperatures below 120°F generally will not have forage quality loss but lower than 16% moisture will further insure less mold and less mustiness. Windrow hay can be sampled for moisture and temperature with an electronic bale moisture probe and the use of a windrow-sampling tool that simulates the compaction of hay in the bale. Samples may also be oven-dried to double-check moisture probe readings. Usually here in New Mexico, hay does dry quick enough that the windrow hay testing is skipped, however, once hay is baled and stacked, it is essential to test for moisture and temperature. Questionable hay should be checked with a hand-held digital moisture and temperature detector, if available, once hay is stacked. Use of the digital moisture should be done by inserting the probe detector into individual bales at least 12 inches, reading the digital display for moisture and temperature after the time required for accurate readings, then cleaning the probe tip (if brass with fine steel wool) before testing another bale. This process should be repeated at least 20 times within each stack of 200 tons of hay. Temperatures at 110-150°F can signal problems as heating caused by fungi respiration heats up hay. Heat at this range can cause some protein and fiber in hay to become less digestible and some hay to begin caramelizing—giving it a tobacco-cured color and aroma while also causing a loss in hay digestibility. Temperatures reaching up into 135-160°F range has heavy fungi respiration and hay should be check at least every day. If temperature continues to rise and is not dissipated by removing stacked bales apart, fire can occur. At 160°F, check hay every four hours. At 175°F, hay should continue to be checked every few hours and bales pulled from storage to help in dissipating the heat and allowing hay to dry out. Hay at 195°F or higher is dangerous. Spontaneous combustion is very probable. Mold can also easily accumulate on wet hay to even being visible on the hay surface. Halt hay fires in New Mexico. Wait to bale until moisture drops, then check the readings for storage conditions sought. Once the temperature and moisture is right, then stack in the barn. This year, as in other years, pole barns, tarps and closed barns are worth the money to protect and shield stored hay from rain. If hay has been rained on, do not tarp until dried down to prevent moisture from seeping up into the tarped stack and accumulating and rewetting the center of the hay stack. Many different designs of hay barns and storage are available for free online through the North Dakota State and Iowa State and the Colorado State agricultural engineering departments. This online internet site can be obtained at: http://www.public.iastate.edu/~mwps dis/mwps web/hy plans.html and at www.cerc.colostate.edu/Blueprints/Barnscorrals.htm . These may just provide a starting point for some better hay storage for keeping hay quality high.

Rain is still needed in the northeastern quadrant of the state, where limited showers have kept conditions on rangeland and pasture below normal.

Inoculate Fall-Seeded Alfalfa to Jump-Start Potential

Nationwide. When planning for fall-seeded alfalfa, plant an adapted variety for your region from quality seed. Good germinating, clean seed is the first step to saving money. Saving fifty cents for poorer quality seed is only about a $10 savings per acre, but may cost you in the long run by producing two tons less hay per acre per year while also shortening the life span of the field if a poor stand develops. Check the winterhardiness needed for varieties in your area as well as the fall dormancy, disease tolerance and insect resistance. Make sure your field to be seeded is free of weeds. And, most important to New Mexico, make sure the seed planted is inoculated. Alfalfa is able to take nitrogen from the air by use of a symbiotic, or mutually beneficial, relationship with bacteria on the roots called rhizobium. These helpful rhizobium may or may not be prevalent in a field so inoculating seed is your best insurance for a head start toward successful alfalfa production.

Three basic forms of inoculants can be purchased. Solid, liquid and freeze-dried formulations can be purchased. The most common are the solid, peat-based inoculants which can purchased for seed or direct soil applied (studies have shown that inoculants on the seed are more effective than soil applied). The liquid and freeze-dried inoculants are available as either a broth culture or a frozen concentrate and both are usually mixed with water and sprayed into the seed furrow at planting but can also be seed applied most easily through your seed dealer.

The two plants on right show severe winter injury. Damaged plants are slow to regrow and produce few stems.

Seed-applied inoculants can be planter box additives, preinoculated seed or custom applied (to seed) inoculants. Dry planter box inoculants are less effective but easier than application with a slurry to the seed prior to planting because adherence and contact once planted is less although dry inoculants are the most common used due to ease. Do not confuse the use of inoculants with chemical seed treatment—many seed disinfectants (including fungicides) are toxic to alfalfa rhizobia. Check with the inoculum manufacturer to make sure your choice of inoculant will not be affected by other seed treatments on your alfalfa.

Each legume species requires a specific inoculant species and strain to be effective. Your seed and inoculum suppliers should be able to direct you to the correct rhizobium for alfalfa (Rhizobium meliloti) and how to use the inoculum correctly—including immediate use of the inoculum-treated seed for planting to insure your rhizobium remain viable. Correct soil fertility for establishing alfalfa is also essential that can be determined by use of a soil test. Soils low in nitrogen may also benefit from use of 10 to 15 pounds of nitrogen per acre for establishment of the seedlings before the rhizobia have effectively nodulated and have begun the symbiotic relationship with the plants.

Mark your calendar for December 11-13, 2006 for the 2006 Western Alfalfa & Forage Conference in Reno, Nevada at John Ascuags's Nugget (Sparks).

Sculpt Your Success in Silage or Go for Great Grain

Nationwide. Silage harvest on corn continues across the state around scattered showers that linger in some areas. The best time to harvest corn for grain varies with use as well as harvest and storage systems. Few in New Mexico save grain corn as high-moisture grain that must be stored in an air-tight silo where grain moisture is at 25-30%. Instead, most grain corn is harvested at drier moisture in order to ease storage for multiple uses. The preferred moisture range for harvesting shelled corn for grain is 16-22% moisture, preferably at 18% or less so that when the grain goes either to the elevator or a grain bin it will be at 16% or slightly lower initially in short-term storage to limit any storage problems from fungus, bacteria or other problems that may results from high moisture corn. Just over winter in short-term storage, grain corn can be left at 13-15.5% moisture without problems unless heating around the storage unit may require a lower moisture content of the grain in order to preserve quality.

Harvesting grain corn at the proper moisture also results in reduced harvest losses and less kernel damage. Too dry of grain corn can also cause problems. Extremely dry corn can result in more cracked and broken kernels which could allow entry into seed from fungus and bacteria as well as storage insects. Storage of grain corn requires intense management. Fines and other dockage problems can cause problems to corn in storage as well as limit the quality of the corn for feed use. For long-term storage, grain corn should have a moisture content of 12-13.5% and bin aeration is advisable.

Before the grain corn is in the bin, however, you can estimate your yields. There are several techniques for estimating yield prior to harvest. One of the more commonly use methods is as follows.

Step 1. Count the number of harvestable ears on row length equivalent to 1/1000 acre (see Table 1).

Table 1. Row length per 1/1000th acre based on row-width planted.

Row-width (inches)	Row length (1/1000th acre)
15	34’8”
20	26’2”
22	23’9”
28	18’8”
30	17’5”
36	14’6”

Corn production near Clovis, New Mexico in 2002 was ahead of schedule as it is this year. Here corn that is silking and tasseling was receiving irrigation as rains keep at bay in the area.

Count the number of plants in the row length and multiply by 1000 to determine the number of plants per acre. For example, 20 plants counted in 17 feet, 5 inches of row length on a 30 inch row spacing are equal to 20,000 plants per acre.

Step 2. Count the number of kernel rows per ear on every fifth ear. Calculate the average.

Step 3. Count the number of kernels per row on each of the same ears, but do not count kernels on either the butt or tip that are less than half-size. Calculate the average.

Step 4. Yield (bushels per acre) = [(number of ears) X (average number of rows) X (average number of kernels/row)]/90

A numerical constant for kernel weight is figured into the equation to calculate grain yield. However, weight per kernel will vary depending on hybrid, environment and harvest timing and the yield equation shown above should only be used to estimate relative grain yield. Yield will be slightly overestimated with small kernel size or in a year of poor grain-fill conditions or will be underestimated in a year with good grain-fill conditions.

Nix the Nitrate in Grasses for Better Gain

Statewide. When working with any grass forage crop, one current hazard should be prevented—nitrate poisoning. Nitrate poisoning can be a problem with sorghum/sudan or other grasses, but only under abnormal growing conditions such as high nitrogen fertilization caused by heavy fertilizer or manure applications or first cut following a legume plow down, prolonged drought followed by rain where quick regrowth is seen that can uptake high levels of nitrogen (as after ample rain), and, any condition that kills leaves while roots and stems remain actively growing that can also cause nitrate accumulation (such as frost, hail, excessive grazing or trampling or even drought with overcast weather for an extended period). Under such stressful conditions, the plants can accumulate high levels of nitrates. Once ingested, nitrates are converted rapidly to nitrites when are absorbed into the animal’s blood. Nitrite alters the way blood carries oxygen. Affected animals may have rapid breathing, fast and weak heartbeat, muscle tremors, staggering and even death if corrective steps are not taken. Unfortunately, high nitrate levels in hay will persist once the hay is cut at these levels. However, when ensiled the nitrate problem will be reduced by half if left for 30 to 60 days if the grass is ensiled and used as either a silage or high-moisture haylage. High nitrate forage which is ensiled will produce deadly nitrogen dioxide gas (silo gas) within hours and be a concern to workers around the silage for at least three weeks, so work around suspect silage carefully. The gas produced from the ensilage process is heavier than air, thus will settle to low points in the silage pack or even into feed rooms at the base of silos, where these are used. The gas is a reddish to yellowish-brown haze with a bleach-like odor. You can test for high nitrates through a forage testing laboratory (sample silage after ensiling, hay samples can be taken at cutting). The quick nitrate test mentioned in the last newsletter is still available as shown below at the online site mentioned through the Montana Extension web site.

Reminder: ***Training materials for use of the Nitrate QuikTest mentioned in the last newsletter are available at: http://www.animalrangeextension.montana.edu/ExtnAgents/Articles/Forage/Nitrate/index.htm . There is a one-time fee of $20 for the test kit and training materials and replacement solution is prepared as needed and provided.***

Keep Cotton Under Wraps with Rain Probably Demanding Defoliation this Fall

Statewide. If the season continues to have scattered rains, you may have to test the best method of opening and defoliating cotton this fall. Several new products are on the market that might also work besides these mentioned below. Plant monitoring this season has shown that recent rains have stimulated vegetative growth in much of the southern cotton and may extend the time toward crop maturity. Last season's use of boll openers provided a mixed blessing for cotton farmers—enhancing boll opening but the use of some products also created more leaf retention that lead to more trash in collected cotton. If indeed scattered rains continue, consider testing different boll openers and defoliates to see how they work on your farm.

Hopefully, 2006 rains won't extend into cotton harvest.

Boll Openers and Conditioners or Enhancers

Chemical	Product	Rates tested	Comments
Dimethipin	Lint Plus	1.25-2.25 pt.	Use with cotton 20-40% open to improve senescence of younger leaves and use 1-2 weeks before defoliants.
Ethephon	Ethephon 6, Prep, Prep 6, Super Boll, others	1.3-2.6 pt.	Can reduce micronaire and fiber strength if immature bolls are opened when applied but can be tank mixed with Def, Folex, Harvade or Dropp. Not compatible with sodium chlorate. Rain fast is 6 hours after application.
Ethephon plus AMADS	Cotton Quik	3-3.5 qt.	Enhanced ethephon (synergist) best on cotton that is cutout with mature leaves. Don't tank mix with sodium chlorate. AMADS is aminomethanamide dihydrogen tetraqoxysulfate.
Ethephon plus cyclanilide	Finish-6 Pro	1.3-2.6 pt.	Also enhanced, this formulation does provide some regrowth control but best with tank mixes such as Tribufos and others but again not sodium chlorate.
Defoliants			
Carfentrazone	Shark	0.66-1 oz.	Both a defoliant and desiccant alone or tank mixed. Use 1% v/v crop oil concentrate and apply once bolls are 65% open and good coverage is essential. May require a second application.
Dimethipin	Harvade or Harvade 5F	8 oz.	Warm conditions for Acala and Pima best mixed with crop oil concentrate or organophosphates or thidiazuron plus diuron (Ginstar). More effective once temperature is below 70F.
Dimethipin plus thidiazuron	Leafless	12 oz.	Defoliant and suppression of growth as well as desiccating many weed species.
Sodium chlorate	Defol 6, others	0.5-0.75 gal.	Both defoliant and desiccant with timing and rate. Lower rates for defoliation is less effective than thidiazuron plus diuron (Ginstar) or organophosphates on Acala and Pima. Higher rates may stick leaves, doesn't really limit regrowth, and ineffective on young leaves toward gaining senescence.
Thidiazuron	Dropp	0.2-0.4 lb.	Controls regrowth and removes younger leaves well.
Thidiazuron plus diuron	Ginstar	4-6 oz.	Better activity in some locations in CA better if used alone. Lower effectiveness in warm to hot conditions but has good activity on young leaves. Highest rates only under cool conditions or leaves stick. Do not mix with tribufos or phosphates.
Tribufos	Def or Folex	1.3-2.6 pt.	Effective on Pima and Acalas (and Sea Island) under a wide range of conditions, but not on re-growth.

Cotton Management All Important Now

Statewide. Once cotton reaches the mid- to late-bloom period of development (into the fourth to sixth week of bloom), new squares and bolls are still developing and the plant is continuing to mature set fruit. Plant vigor, health and fruit retention are key to a premium harvest up to and through cutout of the crop. A healthy crop now can collect carbohydrates and energy for the plant to extend the cutout time period and possibly increase yields—if the season has ample time to mature all bolls developed and kept on the plant. Cutout can occur early if the carbohydrate demand by the developing bolls consumes this energy supply before completely developing and opening all bolls. With an early cutout on cotton, vegetation growth itself can quit early and young bolls can be aborted. Depending on growth regulator use before these recent heavy rains in southern and central New Mexico and flowering stage of the cotton plant, some squares and flowers were aborted in some cases. A survey run in the southern Mesilla Valley region on August 9th, showed that central branches of the cotton plants in some cases had aborted flowers on one to three reproductive branches, leaving 5 to 30 percent less boll development within this region of the plant. But with two plus months possibly available for the plant to develop further, these early losses over the more than two weeks of cloudy weather may not be as significant as the figures first appear. The timing of cutout will really be critical this year for yield and quality. Also, any further stress from any late visiting aphids, some new generations of bollworms, some flighty lygus or from fertility losses from the rains can reduce yield through reduction of photosynthesis, lowered numbers of retained bolls and development of any bolls that can be kept intact to maturity. Keep looking at the percent retention of the first position squares (and keeping lygus away) and now in some cases flowers on the top five fruiting branches as well as the boll load on the bottom five fruiting branches for potential yield. Moisture obtained recently may serve to provide additional fruiting branches with supplies to fill more bolls—if the fall can extend to complete boll development. Plants even that were Pixed twice before the rains have grown about a third taller over the last two to three weeks and with sunshine and heat returning, may indeed continue growth where harvest will be more difficult. Across the four trials examined for flower shed this season, three distinct management strategies were used. One had heavy Pix use early with internode length less than 1.5 inches down the plants with good boll load retention. The second management style was more moderate even though two Pix applications were applied prior to the rains with longer internode length and larger bolls developing thus far but slightly less in number than the first managed trials. The third management style utilized only one growth regulator application but was held in check by irrigation management. Boll load is good with large bolls on the bottom fruiting branches but with some losses in the middle canopy as with the second management style but again with excellent top branch flowering. It will be an interesting season to see how planting date, irrigation management and growth regulator use will quantify cotton yields this year—the verdict is still out.

The New Mexico Hay Association is one point at which to determine available hay or hay requests. The website is at **http://www.nmhay.com** and can be accessed easily online. You may also ask for additional information from the site by emailing your questions to the Association at info@nmhay.com .

Current Crop Conditions

Statewide. The rains have changed many of our strategies toward production this season where heavy rainfall prevailed over the last two to three weeks. Much of New Mexico needed the rain but some areas around Silver City and right next to El Paso did get more than hoped for on some fields. Premium and good quality hay prices will not be going down in the next several weeks; however, more supplies of cow hay may be available where hay was down before baled and hit by the rain. Also, now that the heat is coming back, baled hay needs to be protected. In very hot climates such as ours, hay can become extremely dry, increasing both neutral detergent fiber (NDF) and acid detergent fiber (ADF). As shown in a California study out of the Imperial Valley, hay with less than 10 percent moisture can become quite brittle and unpalatable to livestock on top of the decreased hay feed quality aspects. Also, researchers have found that hay stored above 100^{o}F for prolonged periods form Maillard products (condensates formed from nonenzymatic reactions of sugars and amino acids). These compounds are highly indigestible, as they have chemical properties similar to lignin, again proving to be less palatable with decreased protein and dry matter. Further studies indicated that how the hay is stored under these high temperature conditions can also make a difference. Working with hay stored under a pole barn, under a tarp (of the two separate studies one used blue tarps and one gray—tarp color effects on hay quality is not known from these separate studies) and left uncovered, hay temperatures were 98^{o}F, 107^{o}F and 108^{o}F, respectively. Further work on testing on heat damage on the hay showed that in uncovered hay the variability in total protein unavailability was much greater (55 times greater) in uncovered versus tarped hay. Roof-covered bales being not exposed to direct sunlight fared better than either the tarped or uncovered hay in retaining better digestibility, crude protein and total dry matter. Rain can also decreased digestibility of hay making roof-covered or tarped hay a better quality of feed. Rain can leach soluble nutrients (primarily sugars) from hay leading to losses in dry matter, feed energy and an increase in fiber content. Rain can also reactivate respiration by plant enzyme systems and by microorganisms further lessening plant sugars and reducing nutritional value. Even drying down hay too much before baling can lead to losses. Too dry a hay leads to more leaf loss—where both palatability as well as dry matter and nutrition are loss. Both in alfalfa as well as corn, harvest as a silage product usually results in less feed losses to leaf material, crude protein, dry matter and nutrition—if harvested, ensiled and stored correctly. The most common problem leading to nutrition, dry matter and digestibility losses in silage is simply not maintaining an anaerobic climate during the ensilage process or further not utilizing the feed at the open silage face quickly and efficiently—leading to forage decomposition and loss before use. As in many things in life, it is the details that count in maintaining quality hay and silage for livestock and much of this maintenance is as easy as correct processing and storage of the feed. While rain can compromise forage quality, corn still standing in the field may have gotten some relief from the corn mites that were encroaching on corn field edges from the heavy showers. With drying, again field checks will have to be done through to harvest to maintain silage or grain quality and quantity. The drier areas of the state that did not get the cooling and moisture relief will have to be particularly vigilant in scouting corn fields. Likewise, sorghum head midge continue to be a problem that should be checked in fields. Some bollworms as well as rebuilding lygus in cotton need to be watched for population boosts after the showers. In peanuts, very careful irrigation should be a high priority. Crop quantity in peanuts this year may provide big bonuses to growers. Drought conditions in Alabama, Georgia and the Carolinas may indeed prove that peanut prices can go up significantly this year. Hold on to what you have got—this week's showers in the southeastern United States generally came too late to save the already flagging and limited pegging crop. The majority of the onions are out of the field, with some of the late production out of the Uvas Valley being dried (just so that shipment won't mold) before shipment to Cuba and other areas. Chile harvest will proceed once fields are dry. Amazingly, the ground was so parched that much of the early large rains were quickly absorbed and even now fields are drying on the surface. Drying conditions are needed for harvest and plant health to continue production of quantity and quality pods. Again, where weeds are emerging, difficulty in finding labor and no in-crop chemical controls now available with harvest upon us for green chile, weeds will be a concern during harvest operations. Land that has been idle or rotated out of cropping should be prepared for fall seeding. Small grain markets as well as the potential for cool-season grasses for grazing and possibly for baling appears profitable this year. Shifting cattle supplies away from the southeastern United States as drought has taken a toll may make winter grazing profitable both on the crop as well as the beef side. If contracting out for grazing ground this winter, be sure and evaluate stocking potential on contracted fields. More information on stocking rates for various range, improved pasture and small grain fields can be obtained through your local county Extension agricultural agent or from the Extension animal resources at 505-646-3326. Be sure and scout out fields including rangeland and improved pastures for pest problems after rain showers flush vegetative growth. Consider weed control needs presently or in the fall as required and if supplemental field forage species can supplement feed supplies or rotate fields for better grazing possibilities. Evaluate row crop fields for plans in 2007 before harvest this year so that you can determine rotation needs, soil testing requirements, fall fertilizer needs (particularly for any phosphorus, potassium and macronutrient needs), and fall weed control of perennial grasses and broadleaves. Recent rains in areas have help in leaching some salinity and sodicity from soils. The management of pests (insect, disease and weeds) the rest of the growing season will determine final yields.

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