

Alfalfa Market News

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

Dr. Denise McWilliams P.O. Box 30003, MSC-3AE
CAHE-NMSU Las Cruces, NM 88003-8003
505-646-3455 demewill@nmsu.edu

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Farm Hay Prices—August 24th

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. Some loads going higher.	30% of 4th. around rains.	Strong.
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	5th cut out, 40% 6th cut.	Strong.
Eddy	Woods Houghton, County Agent	\$180 and up per ton small; \$170-big bale.	\$170 small bales and \$170-big bales.	Still around \$150-155.	\$145 to 140 or more.	60% of 6th cut.	Strong.
Guadalupe	Geno Lujan, County Agent	\$6-7 per small bale. \$180 per ton for small bales.	Varies, ask your supplier for pricing and quantity.	\$120 per ton. Some cooler temperatures came into the region.	\$6-7 for premium custom baled hay.	3rd cut is 60% complete this week.	Strong.
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.	80% of the 3rd cut is complete in south, 40% to the north.	Strong.



Simplify Your Alfalfa Management, Plant Quality Seed

Statewide. One of the easiest ways to simplify your alfalfa operation is to plant quality seed that is adapted to your region and use. Determining variety choice by observing those alfalfa varieties doing well in your area and yielding well and also comparing trial results can really pay off in the long run. Utilize the alfalfa variety information through the Extension Service by either obtaining a copy from your county agricultural agent or by logging onto www.cahe.nmsu.edu and looking for the information under publications and agronomy. Even paying extra money for new, better seed pays off. For every dollar per pound of quality alfalfa seed, only a 5 percent or less yield improvement can pay for the initial input cost (this would be a 0.33 ton per acre per year yield advantage over a 6-year period for the stand). Even at \$20 more per acre, quality seed can provide an average increase in net profit of over \$200 per acre (double that with recent hay prices). Input costs put toward careful seed purchase is worth the cost and time it takes to get a high quality, adapted variety that is certified and assured that it is weed seed free.



Careful planning and preparation of land for planting alfalfa this fall will help you manage the field for the rest of its life span.

Alert! Alert! Alert! Alert!

- ♪ Watch insect pest populations of bollworms, armyworms and lygis after rains.
- ♪ 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. Look particularly after our now prevalent weeds showing up after the rain such as pigweed and devil's claw—effective early-season Palmer amaranth (pigweed) and devil's-claw control can be achieved with Prowl followed by Roundup Ultra or Prowl followed by Roundup Ultra + Staple POST. Prowl followed by Roundup Ultra or Prowl followed by Roundup Ultra +Direx PDIR provide similar levels (95-97%) of Palmer amaranth control and devil's-claw control and were superior to residual herbicides alone (70-80%). Late-season Palmer amaranth and devil's-claw control was similar with Prowl followed by Roundup Ultra POST followed by Roundup Ultra PDIR, Prowl followed by Roundup Ultra + Staple POST followed by Roundup Ultra PDIR, or Prowl Followed by Roundup Ultra POST followed by Roundup Ultra + Direx PDIR.
- ♪ Continue to watch cotton for growth regulator needs to limit excess vegetative growth so plants retain bolls—if able to spray.
- ♪ Silage cutting is proceeding through the state.
- ♪ Chile wilt will require hastened harvest.
- ♪ Make decisions on rotations from now into the fall—seedwinter small grains and alfalfa!
- ♪ Peanuts have been pegging, now let's dry out those fields to preserve quality and quantity.
- ♪ Line up quality markets for your hay that was not hit by rain—it is worth its weight and protein content now. Make hay while the sun shines, wide swaths, quick pick up for hay supplies this winter.
- ♪ Use current moisture conditions to get good stand establishment from cool-season perennial grasses.

Seedbed Preparation on Alfalfa Fall Planting

Statewide. For an excellent start to a new alfalfa seeding, seedbed preparation to loosen soil, remove any hard pans, level fields and to firm and smooth the soil surface will all help in optimizing crop emergence. Alfalfa requires a well-drained, relatively deep soil. Limiting any hardpans, stratified soils (down to 3 or 4 feet) and limiting any salt restrictions can add growth, stand and production during establishment year. Even under drip irrigation, land leveling can make future tillage operations and applications as well as pest control a little easier on alfalfa fields. More extensive leveling may be required for fields still under flood-irrigation. Low spots in fields can allow water to pond and drown alfalfa or even to harbor pest problems in the future of the field. The ideal seedbed should be firm, not powdery or fluffy, and clod-free as much as possible. With current moisture, you may be able to seed without a preirrigation—between fall showers that will help emergence. Moisture across the field will allow alfalfa seeds to uniformly germinate more quickly, thus set up an excellent stand that will be easier to maintain, limit weed problems and provide an initial base stand for years to come.

Seeding

Seed placement for alfalfa is critical in that depth of planting should not exceed 3/8 inch, except in very sandy soils where 5/8 inch is acceptable. The small alfalfa seed has limited energy to provide to the growing tip as it emerges from the soil, thus keeping seeding depth within a reasonable depth to the shoot emergence potential will insure more seedlings survive. Generally, the rate of survival has been found to be:

Table 1. Emergence for alfalfa seedlings from various planting depths.

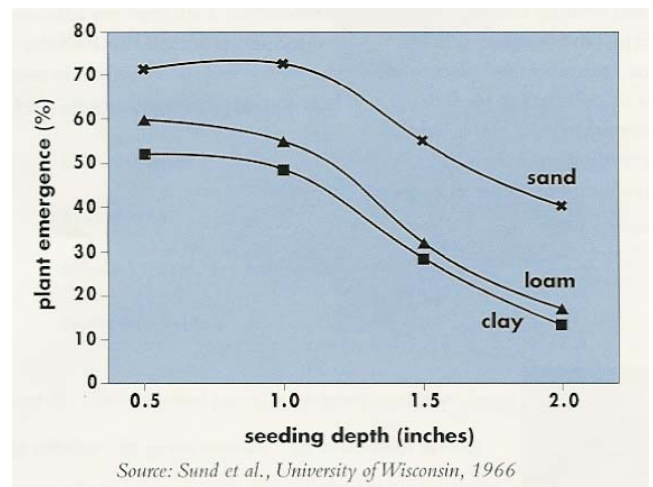
<u>Depth (inches)</u>	<u>% Emergence*</u>
1/4 - 1/2	60
1	48
2 - 2 1/2	2

*Emergence of alfalfa seedlings will vary with soil type such that poorer emergence may be seen from deeper planting on heavier soils. Source: Orloff, S.B., H.L. Carlson and L.R. Teuber. 1995. Intermountain alfalfa management. Univ. California, Div. Agric. And Nat. Res., pub. 3366.

Alfalfa can be seeded by either broadcasting or banding (drilling) followed by either press wheels on the seeding unit or by following with a cultipacker to insure a firm seed bed with good seed to soil contact for better moisture uptake by the seed, a more uniform emergence and better establishment. A wide range of seeding rates are acceptable if the seedbed was properly prepared, but money savings can be found if good seed is planted. Seed with more than 85% pure live seed and germination that has a low dormancy rating, will allow only 15 to 20 pounds of seed to be used on regularly irrigated fields that are drilled and 20 to 25 pounds per acre to be used even when broadcasting and following with light tillage to insure seed to soil contact. However, if seed quality is lower, more seed may have to be utilized. Typically, even with good quality seed, only 60 percent of the seeds germinate and emerge and continue to flourish during the first year. This is especially true where moisture availability or frequent heat can also limit seedling emergence as we typically see in New Mexico. And, even though just one pound of alfalfa seed spread evenly across an acre equates to about 5 seeds per square foot (and 4 pounds is about 20 seeds per square foot), since only 60 percent of the seed typically survives during the establishment year, more seed is used at planting around the state. Accuracy of plant spacing, depth of planting, seed viability, seed germination, seed survival, seed dormancy, moisture availability, seed to soil contact, fertility, pests and other factors also effect the final stand. Thus, usually a minimum of 20 pound per acre is planted here—often more up even above 30 pounds where older seed, poorer quality seed, older drills or even sporadic moisture are provided to the field during establishment.

Date of planting should be determined by taking into account the weather (temperature and likelihood of rainfall), cropping pattern, field preparation, harvest date of the preceding crop, water availability, irrigation method, weed pressure and time of year. Since so many factors influence seed germination success around the date of planting, stand success can be moderated at any particular date of planting. Fall planting in New Mexico often is met with more success due to more rain availability (usually) and less wind (that can dry out that upper soil surface where small alfalfa seed is planted). Fall planting of alfalfa is really a late-summer planting. August into September is usually the time of the most successful seedings. This timing allows the seed to establish, grow and develop a fairly good rooting system that will protect the stand later from cold and limited inputs over winter and early spring. This will also allow the stand to begin growing with possible early spring rains and provide an adequate stand establishment and robust plant going into the heat of summer. Generally, too, these late summer seeded plants have even a better developed root system going into summer heat than any spring-seeded fields. Planting in the late summer, however, should be completed at least 30 to 45 days before the first killing frost (before the first 26°F winter temperatures) occurs in your region.

With recent heavy rain showers, fertility should also be consider prior to planting. A soil test is needed to evaluate needs—particularly after rainfall. Any phosphorus, potassium or even sulfur needs should be considered within a broadcast prior to seeding. Phosphorus can also be banded but again may not be immediately available just a broadcast supplies are not and is best if side-banded (but may not be easily accomplished when drilling) so seed germination and emergence is not adversely affected. Sometimes at planting nitrogen is also required—usually at less than 15 to 20 pounds per acre, depending on nitrogen availability. If soil nitrate levels are tested at higher than 15 ppm (parts per million), nitrogen does not have to be applied. Soil levels higher than this can lessen plant nodulation and may not be economically successful for alfalfa establishment. Fields newly planted to alfalfa within the last 3 years should also have seed inoculated or Rhizobium added with seeding at planting to insure nodulation can occur and thus alfalfa can contribute to its own nitrogen needs over the life of the stand. Soil pH of 6.2 to 7.5 also usually has a higher success at nodulation, too, as factors allow better root development, nodulation and fertility availability to plants. There are too fungicidal seed coatings that can be used with alfalfa at planting. Not always necessary and sometimes interfering with any Rhizobium applied at planting, if used, fungicide coatings add weight to seeds. In fact, as much as one-third less seeds may be planted if drill settings are not adjusted when fungicide-coated seeds are used. So, consider your needs and input costs carefully when deciding whether to plant fungicidal coated seed this fall, *continued on the next page.*



Seedbed Preparation on Alfalfa Fall Planting (continued)

Pest Prevention

Alfalfa establishment without any companion crop is greater if pest problems are held at bay. In particular with fall seeding, weed control is essential to gain advantages during the establishment year. Use of one of the glyphosate products preplant or anytime prior to emergence (unless Roundup-Ready alfalfa is planted), can control emerged grass and broadleaf weeds. Apply with an AMS fertilizer as specified on the label to provide optimum chemical activity—particularly when using water within the mix that is poorer quality such as that with salts or sodium or called “hard” water sources. Refer to the label also for adjuvant use—as different formulations now available may or may not require adjuvant additions. Gramoxone can also be used on emerged annual weeds, but remember that it is a nonselective, contact, foliar herbicide with no soil residual activity. Also, the old Gramoxone Max is now replaced with Gramoxone Inteon. This new formulation is only 2 lb/gal where the old Max was 3 lb/gal. If used, still consider the 0.63 to 0.94 lb ai/A equilibrant with this new product and remember that use does require a pesticide license for use in New Mexico. Either the old Eptam (EPTC) or Treflan HFP (trifluralin) can be used as preplant incorporated (PPI) controls for grass and broadleaf weeds. Use of trifluralin PPI prior to direct seeding alfalfa should be adjusted in rate by soil type as specified on the label, and generally can be used a 1 pt/A in New Mexico as we usually receive less than 20 inches of rain. If Eptam is used, remember that it has poor mustard weed control—so don’t expect fall and spring flushes of mustards to be taken out even with the 2 to 4.5 pt/A (or 10 to 20 lb of 20G for the equal of 1.75 to 4 lb ai/A) to control all your weed problems when this control is used prior to planting.

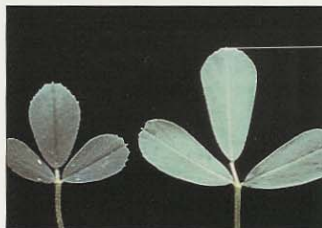
nutrient	dry matter removed (lb/ton)
phosphorus (P)	6
phosphate (P ₂ O ₅)	14
potassium (K)	48
potash (K ₂ O)	58
calcium (Ca)	30
magnesium (Mg)	6
sulfur (S)	6
boron (B)	0.08
manganese (Mn)	0.12
iron (Fe)	0.33
zinc (Zn)	0.05
copper (Cu)	0.01
molybdenum (Mo)	0.002

Nutrients removed with hay have to be kept in mind on alfalfa in order to continue stands with good yields.

Phosphorus deficiency



Deficient plants have blue-green leaves and stunted growth.



Leaflets often fold together, and the undersides may be red or purplish (left).

Potassium deficiency



Leaves of severely deficient plants turn completely yellow.



Lower leaves of deficient plants are edged with white spots (left).

Sulfur deficiency



Stems are spindly with weak growth.



Leaves turn light green (left). Symptoms are similar to nitrogen deficiency.

Boron deficiency



Deficient plants have yellowed leaves on shortened stems.



Yellow coloring turns reddish to purplish between veins.

Once established, alfalfa can still utilize some weed control help in newly planted stands. Once the plants have reached the 2 trifoliolate-leaf stage, a few herbicide options are available. Butyrac 200 and others (2, 4-DB ester or amine at 2 to 4 pt/A of the 2 lb/gal concentrate) as well as Bromoxynil (at 1 to 1.5 pt/A or 3.33 to 5 A/pack for the 0.25 to 0.38 lb ai/A equal) can be used to control broadleaf weeds—with better control when weeds are less than 3 inches tall. With Butyrac, however, remember that it has a 60 day preharvest interval (PHI) and grazing interval once used and the maximum that can be used is 6 pt/A. With a pure alfalfa stand, however, several other options exist that may better. Pursuit or Pursuit DG (check label for recommendations of the different formulations) has always had excellent alfalfa safety—as has Raptor. Try to apply to dormant or semi-dormant alfalfa with an oil additive at 1.5 to 2 pt/A alone or with UAN (ammonium nitrate) at 1 to 2 qt/A to get most annual and broadleaf and grass weeds (1 to 3 inches tall weeds). For more activity it can be tank-mixed with Butyrac 200, bromoxynil or even Poast (check label for specifications). Poast can be used alone at about 0.5 to 1.5 pt/A for control of annual grasses (up to 2 to 4 inches) and can be most efficient when applied with an oil additive at 1 qt/A to actively growing grasses. Also, Select or Prism (clethodim) can be used on annual grasses, including quackgrass (when grasses are only 2 to 6 inches tall) and can be applied with an oil additive at 1 qt/A to actively growing weeds, but does have a 30 day PHI. For more information contact your regional agronomist or county agent or direct inquiries through the university or through Dr. Denise McWilliams at demcwill@nmsu.edu or at 505-646-3455.

Insects should also be scouted for throughout the establishment year for alfalfa. Currently in the state, we have very limited aphids, cutworm and grasshopper problems. However, we have had some armyworms and bollworms that might come into newly established alfalfa fields. There are natural enemies for these caterpillars, but watch if larvae enter new, tender-leaved fields and began skeletonizing the leaves. If more information on possible insect pest problems are suspected, contact Dr. Carol Sutherland at csutherl@nmsu.edu or at 505-646-1132.

If rains continue through the fall, do keep an eye out for any damping-off diseases and less possible, any root and crown rots, foliar diseases or even wilt diseases. Phythium, Phytophthora, Rhizoctonia and Fusarium can appear in soils where drainage is poor or during periods of heavy rain, especially if an extended fall keeps temperatures cool but not below the regime for these diseases. With alfalfa, once seedlings are older than 1 to 2 weeks, there is less of a chance that these damping-off dis-

eases can infect the plants. If disease in a newly established stand is suspected, confirm by sending in a sample of the affected plants either through your county agent or directly into the diagnostic lab (to: Dr. Natalie Goldberg, NMSU-Coop. Extension Service, (corner of Knox and College), Box 30003, MSC-3AE, Las Cruces, NM 88003, more information can be obtained at ngoldber@nmsu.edu or 505-646-1621), *continued on the next page.*



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



Seedbed Preparation on Alfalfa Fall Planting (continued)

Vertebrate pests this year with the extra moisture may be a more serious problem in newly established fields. Rodents (gophers, ground squirrels, ground hogs and meadow mice) are problems. Alfalfa fields—especially newly established alfalfa fields—are highly desirable habitats and new fields often are less compacted and an easier location for burrowing vertebrates. Deer, antelope and even elk can also be problematic on some newly established alfalfa fields. There are several control measures and more information can be obtained online through the publications at www.cahe.nmsu.edu or more information can be obtained from Dr. Jon Boren at jboren@nmsu.edu or at 505-646-1164.

Interseeding Older Alfalfa Stands, Possible but Weeds Can Create Headaches

Statewide. Interseeding perennial grasses into older alfalfa stands can extend the grazing and haying potential of the field but may be more difficult to manage, particularly with weeds. Fields can be cultivated with a harrow or disk in the late winter or early spring to prepare a seedbed and after the last alfalfa cut, fall seeding of several different perennial grasses can occur. Some of the more suitable grasses for interseeding are: orchardgrass, perennial ryegrass, tall fescue, kemal festulolium (ryegrass x tall fescue), timothy or even matua prairiegrass. Orchardgrass appears to be the best option for most of New Mexico. It is high yielding, very palatable and some dairies will accept alfalfa-orchardgrass for hay (but check first) and many retail feed stores will carry this hay for pleasure horses. Tall fescue is a more aggressive grass but will, eventually choke out alfalfa and possibly even other grasses utilized in any interseeding project. Ryegrass, too, is very competitive with alfalfa although it is very high yielding for the first cutting in the spring. Matua prairiegrass and timothy are both much less competitive. Forage yields are also less. However, alfalfa-



Grass and alfalfa mix can be beneficial, especially if haying as well as grazing in some higher altitude areas of the state like north of Clayton, New Mexico.

timothy hay is highly desirable to the horse market, but usually does not receive a premium price over other alfalfa-grass hays. To interseed, use of the small-seed attachment on grain drills or the use of no-till drills can be used. Broadcasting can also be used and the seed incorporated with some type of soil packer—such as a ringroller or a cultipacker or some type of rolling weight packer. If broadcast, seeding rates will have to be higher depending on the seed size of the interseeded crop. Generally, you would use around 5 pounds of timothy; 10 to 12 pounds of orchardgrass, ryegrass or tall fescue; and, 30 pounds of matua grass—where alfalfa stands are still fairly good. Remember that perennial grasses are slow to establish. Where more grazing is demanded earlier, any of these perennial grasses can be interseeded along with a low rate of oats at 50 pounds per acre or less to improve grazing and hay yields in the first cutting after interseeding. Also, consider a soil test—not only to check on nitrogen levels after these recent rains, but also because alfalfa-grass stands do require more nitrogen annually, usually around 50 to 75 pounds of nitrogen per acre. Also, check with your local Natural Resource and Conservation (NRCS) office to see if any programs are available for reseeding or conservation efforts. They can also provide you with a conservation plan and information on soils in your county and on your location that can show which perennial grasses would work the best for you. Find out your nearest NRCS office and possible programs through your local county Extension office or online at: <http://offices.sc.egov.usda.gov/locator/app?state=NM>.

Stand Replacement and Overseeding with Alfalfa—Why or Why Not?

Statewide. Many wish to thicken an old alfalfa stand by overseeding with additional alfalfa seed; however, this may not be the best management strategy. Successful overseeding with alfalfa is very difficult. Even with moisture, seedling emergence following overseeding may be excellent but often seedlings fail to survive—resulting in a final stand that is again very similar to the original, old stand. There are several reasons why overseeding alfalfa with alfalfa may not succeed. Disease, insect pests, weeds as well as nematodes often flourish more easily in established stands and find newly planted alfalfa even easier prey. Also, alfalfa seedlings grow slowly and are not very competitive early in establishment—particularly against already established plants. Having to compete for light, water, and nutrients—new seedlings often can not survive. Also, newly germinating seeds may also be exposed to autotoxic compounds from the older alfalfa plants. Autotoxic compounds are naturally released from the leaves, stems and roots of the older plants, especially as some of this plant material decomposes. These compounds both reduce germination and retard seedling development. Yet another reason interseeding alfalfa within an established stand is not always beneficial is that after several years of an established stand (and especially under irrigated conditions), the seedbed surface is usually not ideal for new seed planting.



Sometimes, it is better to start a completely new stand of alfalfa.

Where interseeding has worked best, is where a whole block of the old stand is completely eliminated and that whole block reseeded back to alfalfa in such a way that the new plantings can be treated separately—in irrigation needs, fertility and even planting seedbed development. But, even under these conditions, newly established stands can have difficulty. Even here in the semi-arid conditions where plant residue rapidly breaks down, some autotoxicity can create reseeding nightmares. Here in New Mexico, the effect from autotoxic compounds from established alfalfa stands usually dissipates within 2 to 3 weeks, however, established diseases and other pests persist longer. Rotation out for at least 1 to 3 months or over a year can allow the land to recoup from previous cropping problems or at least have some of the pest problems dissipate, by breaking disease and insect cycles and improving weed control and soil fertility.

Final Fall Harvest Management of Alfalfa Determines Next Year's Crop

Statewide. Going into fall after the final hay cut in alfalfa, you want to keep in mind the management needed to improve stand life and plant vigor. Stored carbohydrates within the plant will provide the energy for regrowth after the final cutting and even for the initial regrowth in the spring. Root reserves are also needed for winter hardiness. Without ample stored energy, the plant can have reduced vigor, stand loss and lower yields after winter. If you can not get enough plant material to finish your last cut before a killing frost (25-26°F), you can keep hay growing now and cut after the frost. Cutting alfalfa after a killing frost does not deplete root reserves. Also, the field can be late grazed with extra forage available without harm to root reserves—you just want to make sure that wet conditions do not add compaction to the field due to animals moving in grazing patterns or that trampling of plant crowns does not cause stand problems later in the spring when regrowth begins. The only disadvantage to waiting to cut hay after a frost, is that curing conditions are not always favorable—making grazing more of an option later in October, November and December after any freezes. Predicting a frost is very difficult, especially in New Mexico. In recent years, we have had extended falls that have helped to finish out crops and hay. If possible, try to time the last harvest about 4 to 6 weeks before the first killing frost to maintain stand and plant health. If not possible and hay is even cut after the frost, consider wider windrows to dry out hay faster. Due to exposure to radiant solar energy even in the winter, wide windrows in some cases can dry out a day faster than narrow windrows. This is also an important consideration when drying out hay from rain showers. The drying process in alfalfa can be broken into two phases: the rapid drying phase and the slow drying phase. In the first phase, about 75 percent of the moisture loss is from the leaf pores (stomata) and from the cut stem surfaces and this phase usually is only 20 percent of the total drying time needed for hay. Wind rather than still air over a swath during this phase can speed up the drying process—and even more if the swath is wide rather than hay that is narrow and bunched (heaped) in piles within the field. Often here in New Mexico, we can complete this first drying phase within ½ to 1 day. It is the second phase, that drying from about 40 percent moisture to less that takes longer. At this point the drying plant material has largely closed down many of the leaf and stem stomata. The drying rate during this second phase can be as slow as 1/100th of the initial phase drying rate. In wetter regimes, this is why alfalfa growers utilized conditioners or crimpers. This crushes or breaks the stems that normally are slower to dry out, allowing more water loss from the plant material and further accelerating this drying by breaking the cuticle—or waxy surface of the plant material that might further reduce moisture loss. Mechanical conditioning can accelerate the drying process as much as 30 percent. Chemical conditioning as mentioned in the last newsletter can also hasten drying. Applied during swathing, a drying agent (such as potassium carbonate or a mixture of potassium and sodium carbonate) can help in that it allows moisture to also pass through the waxy cuticle more easily. Drying agents affect and help only during the second phase of hay drying. They work better, as you would guess, when the weather is warm and sunny. Again, under poor curing conditions, drying agents really offer no benefit. Also, to apply these simple drying agents, much water is needed with the application—hauling water for this purpose and still needing good drying conditions in order for them to work, limits their cost-effectiveness most of the time.

A simple method of testing if hay is ready to bale without drying the hay and testing through the microwave or oven test system or with an expensive hay tester is to simply grab a handful of hay in both hands and twist it by rotating your wrists in opposite directions—if the hay stems crack and break, the hay is usually dry enough to bale. Also, scrape an alfalfa stem with your thumbnail. If that outside layer (or the epidermis) can be peeled back, again the hay is usually dry enough to bale. You can get hay too dry, though. In this case, excessive leaf loss can occur during the baling process. Delaying until dew is available or cutting in early morning or late evening when cooler conditions may also bring up moisture content in the drying plant material can help. In extreme cases, water can also be sprayed onto the hay prior to or with baling. More hay quality losses are seen when hay is above 10 percent moisture than any other time. Quality losses from too much moisture in hay can be from molds developing (especially at hay at 20 percent moisture or higher), mold respiration causing heating of the hay and thus causing browning reactions to occur (which can reduce the protein and energy available in the hay), and from spontaneous combustion (occurs when bale temperatures exceed 150°F or more).

Table 1. Wet hay problems when heating occurs after baling.

<u>Temperature</u>	<u>Problem</u>
115-125°F	These temperatures when coupled with high moisture can cause molds and odors to develop and palatability will be decreased.
> 120°F	Heating at this level reduces the digestibility of the protein in the hay as well as that of the fiber and carbohydrate compounds.
130-140°F	At these temperatures, hay has already started to turn brown and caramelize the sugars in the hay—nutritional value is greatly reduced.
> 150°F	At this temperature or higher, hay may have already turned black and spontaneous combustion is possible.

Extremely wet hay can be left to dry outside a barn or away from a permanent stack. Also, a bale ventilator can be used. This is simply a spear that is about 8 to 10 inches long that can be mounted on the center of a baler plunger face. The spear creates a 2-inch-diameter hole through the entire bale as the hay is compressed in the chamber. This hole works to facilitate moisture dissipation; however, some studies suggest that it does not work well. And, if hay is stacked, again, this process may not reduce hay temperature, dry-matter loss or even moldiness—and, you have a product that is not as much or as quality a product to sale. Your best bet is to bale at the right moisture, if possible.

Once hay is cut and baled, getting it out of the field quickly will also allow better regrowth of the field. It will also allow these plants previously under the swath to return more quickly to regular growth and to continue storing carbohydrate reserves for the winter. Simple maintenance of field hay and movement of bales out of growing fields as soon as possible can really help in fall management of fields and can insure better longevity of those alfalfa stands.



Get bales out of the field—allow regrowth in the field for next year's energy reserves.

Current Crop Conditions

Statewide. Rains in the state have helped replenish ground moisture but have wrecked havoc on hay cutting. On top of limited supplies in the United States and the need for premium supplies, the Food and Drug Administration (FDA) has continued to tighten anti-bioterrorism measures, including some recordkeeping and traceback regulations. In a final ruling back in October of 2005, FDA will be able to locate processors in case of an accidental contamination of food or feed. All facilities that manufacture, process, pack or hold food, including animal feed, dietary supplements, infant formula, beverages and food additives fall under the new law. Individual farmers that utilize hay on their own place are exempt, but those that transport and receive feed supplies will have to maintain records and traceback source information. More information on this and other emerging issues as well as information on water economics and profitability; pest management; utilizing a wide range of forage crops; irrigation and soils; future trends with alfalfa and forages; harvesting technology and quality; and, risk management will be presented at the 2006 Western Alfalfa & Forage Conference, December 11-13, 2006, at the John Ascuaga's Nugget in Reno, Nevada. Early registration can be obtained online at: <http://alfalfa.ucdavis.edu/2006AlfalfaConference/>. Representing all the western states, this conference will have information that can provide alfalfa and forage growers, users and the public with more information on forage for the coming years. With New Mexico setting well in forage supplies as compared to many other regions, new markets continue to open up for both the hay and silage markets. In particular, late rains in Texas and further east have provided a demand pull for supplies out of our state. Any winter supplies needed in-state should be quickly contracted or purchased to insure quality hay or silage products through spring of 2007. Continued rains have also affected other crops in the state. Chile wilt has been present in some areas for the last 3 to 4 weeks, but has appeared more within the last week. Wet fields have slowed harvest capability while fruit ripens in the field—marking a strong demand for green chile supplies, as available. The last of the onions are also being shipped through brokers. And, still some of last year's bonus pecan supplies are likewise finding usual markets for the product out of New Mexico. Some examples of distribution recently have been to Hong Kong, China, Japan and France. Even corn grain from New Mexico have had some supplies sent from New Mexico to the United Arab Emirates, Germany and Mexico. Even after color is removed from chile, remaining feed product is shipped to Peru and supplies of chile and other direct food products go around the globe. Cotton supplies from New Mexico have been shipped around the world—particularly to mills in the Far East and other locations. New Mexico is truly a diversified cropping state that has influence throughout the world. Recent rains have affected production this year. Cotton in New Mexico has thus far by passed the Southwestern Cotton Rust seen over in Clint, Texas but small pockets of Fusarium boll rot are seen—particularly on outer, small bolls that are being lost to premature boll drop from all the cloudy weather. Less squares, flowers and bolls on plants than expected four weeks ago, but continued juvenile growth may continue cotton production on plants. The recent rains on the eastern side of the state really gave cotton and corn a boost this season. Now, wet fields are slowing down corn silage harvest in the state. Some fields have been cut or partially cut in southern New Mexico, more progress was made in central New Mexico and now we are waiting to dry out enough to continue silage harvest in eastern New Mexico. The bootheel of New Mexico really got the brunt of the storms, with parched soil replenished beyond our dreams and with some flooding problems. Farmington and the Four Corners, too, has garnered some rain with excellent precipitation recorded around the state. The state of New Mexico is green. Showers are slowing final cotton boll development, running grain sorghum into the risk of seedhead sprout problems if rains continue, and making peanut production rock on a pivot of either an excellent production year or a fight to prevent disease and field loss—depending on field drainage and future shower possibilities. Some excellent pod loads have been seen in chile and any producer that got out some produce early is happy. The onion yields also were excellent this year and supplies out before rains continue to have wide-spread marketability. Over the next few weeks, watch to quickly get out corn silage supplies to prevent any later lodging problems. Watch grain corn carefully for maturity so supplies can be harvested with problems. If drying conditions allow, grain sorghum may have a bonus year in production as will peanuts. Cotton supplies in northeast New Mexico may up yield levels in Upland supplies, as Texas saw last year. Without Texas hauling in as much cotton and California receiving rains late also, pricing may be good in cotton, if an extended fall allows these last bolls to develop. Harvest-aid products will have to continue to be used. One new product is Resource from Valent among the other lineup mentioned in the last newsletter. If rains continue, boll openers may also have to be used. Wait and see—we still have time. Just watch for lygus, bollworm and armyworms coming into remaining crops, including cotton, as corn silage and alfalfa hay is harvested. Now is the time to plant small grains and perennials grasses to get good establishment from soil moisture supplies. Make haste on fall seedings on fields, pastures and rangeland, but hold back on other crop final determination until we see whether the rains stay around.

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.

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Cooperative Extension Service
U.S. Department of Agriculture
New Mexico State University
Las Cruces, New Mexico
88003-8003