



# New Mexico State University

## Extension Plant Sciences

### Alfalfa Market News

New Mexico Hay Association, [www.nmhay.com](http://www.nmhay.com)



#### Hay Prices for New Mexico

#### Volume 9, Issue 5

September 9, 2010

County	Contact	Premium Hay (\$/ton)	Top Quality Hay (\$/ton)	Other Hay (\$/ton)	Condition/ Market Activity/Cut Complete
Chaves	Sandra Barraza, County Agent	\$165-185 large delivered; \$200-230 small in barn	N/A	\$125-145 large light-striped delivered; \$180-200 small striped	4 <sup>th</sup> 100%, 5 <sup>th</sup> 15-20%; Market fair; Rainy, hot and humid.
De Baca	Leigh Ann Marez, County Agent	\$150-160 large; \$220 small bales	\$130-140 large striped; \$185-190 small striped	\$100-120 dry cow hay, hegari sorghum large bale	5 <sup>th</sup> 75%; Market steady, demand high for small bales; Spotty rain showers and hot.
Eddy	Woods Houghton, County Agent	\$180-200 large; \$185-240 small	N/A	N/A	5 <sup>th</sup> 100%, 6 <sup>th</sup> 60%; Expecting shortage in fall due to extensive cutworm problems.
Hidalgo	Christy Rubio, County Agent	\$160 large; \$7.00 per 2-string bale	\$130; \$6.00 per 2-string bale	\$110 oat hay; \$5.00 per bale ryegrass	5 <sup>th</sup> 95%, 6 <sup>th</sup> 50%; market consistent; some rains slowing cutting/baling.
Lea	Wayne Cox, County Agent	\$195-205 large; \$8.00 small	\$180-190 large; \$6.00-7.00 small	\$5.00-6.00/bale for rained on hay	5 <sup>th</sup> cut . Market steady.
Luna	Jack Blandford, County Agent	\$150-170 large; \$5.00-5.50 small	N/A	Rain damaged hay discounted	4 <sup>th</sup> 95%, 5 <sup>th</sup> 10-20%; Premium market may be increasing; Rain slowing baling. Stink bugs present.
Valencia	Kyle Tator, County Agent	\$6.00-8.00/bale small	\$5.00-7.00/bale small	\$4.00-5.00/bale for cow hay	4 <sup>th</sup> 30-40%; Market fair to good; Good supplies of good quality hay

#### Worm Woes of 2010

Woods Houghton, County Agriculture Agent, Eddy County, NM

Starting July 24, 2010 the Eddy County Extension Office started receiving calls from alfalfa producers about their hay not coming back after cutting. They described a worm which by telephone I thought was fall armyworm complex. I was at or getting ready for the county fair. I thought this was early but possible since we had way above average rain and cool cloudy days. An agricultural chemical dealer called on July 30<sup>th</sup> and told me they were not getting control with traditional chemicals and he thought it was cutworms and not armyworms. This was as late for cutworms as it was early for fall armyworm. Cutworms are not normally a mid-season pest; the eggs will not hatch when the ambient air temperature exceeds 95° F. I started looking at alfalfa fields on August 1. I was shocked at what I found. In the middle of the day, which is not normal for exposed cutworms, I found 15 to 20 worms per square foot. Normally you scout by looking at night with a flashlight and 2-5 is considered to be economically damaging. On the night of August 1, there were wall-to-wall worms. I gave up counting at greater than 50 per square foot. In 25 years of working as an Extension Agriculture Agent and 32 years as a professional entomologist I have never seen anything like this with cutworms. Before going into why I think this is weather related let me explain what is “normal”.

Alfalfa cutworm (*Peridroma saucia*) is at best a sporadic pest on spring seeded alfalfa in the Pecos valley. In fact, it is only a footnote in most alfalfa Integrated Pest Management publications and Extension alfalfa

management guides across the west. The Extension Intermountain Alfalfa Management Guide, UC, No. 3366 has the normal seasonal occurrence in the Intermountain region as mid-February to the first week of June. It states "Cutworms are occasional pests in seedling alfalfa fields, and less frequently a problem in established alfalfa. They can cause serious damage to seedling alfalfa fields by cutting off seedlings at or below the soil surface." On established alfalfa they feed on new shoots or foliage after cutting as re-growth takes place. They can be difficult to detect because they feed primarily at night and hide under debris or in soil cracks in the day. They develop in weedy areas and later move into alfalfa fields.

Historically, cutworms are a problem in early spring-seeded fields. Tillage prior to seeding is an effective means of preventing cutworm damage according to many published guideline sources. Definitive monitoring and treatment guidelines are not well developed because of the sporadic nature of this pest. However, it is the general consensus of the sources I have looked at that if the number of worms exceeds one or two per square foot treatment is warranted and to spray in the late evening or at night when worms are actively feeding. I found 10 times that amount. I have to note that the National Alfalfa Management Guide NCR547 does not even list cutworm as a problem insect. So now the question is how and why this perfect storm of destruction did occur in the Pecos Valley, NM in 2010.

I have discussed this with a number of professional entomologist and field consultants who have lots of experience. A number of environmental influences occurred at the same time to create ideal conditions for cutworms:

1. The NM inter-state Stream Commission in an effort to comply with the 1988 Supreme Court decree on the Pecos River Compact, and long standing dispute between Carlsbad Irrigation District and Pecos Valley Artesian Conservancy District has purchased and retired a significant number of acres scattered throughout the farming area in the Pecos valley. This land has not been irrigated or weeds controlled for a number of years. Note these worms are documented to occur in weedy areas and move into alfalfa fields.
2. Current observation indicates that those producers who cut hay in mid-July are having problems. Those fields that are on a different cutting cycle for whatever reason seem not to be as severe.
3. Eddy County received abundant rainfall in July, far above normal and it occurred as a frontal storm, slow long-term events instead of the normal thunderstorms which tend to be random, short duration, high-intensity rainfall events. The Reagan Loam soils which are the predominant soil type, or closely related soil types according to NRCS soil classifications, have a permeability of 0.8 to 2.5 inches per hour. These were good soaking events and not much surface water accumulation occurred as often happens with short duration high intensity events, or irrigation.
4. When there is surface water accumulation, worms float to the surface of the water, and are susceptible to predation by birds, bats, other insects or drowning. Or they are washed out from under litter and debris and exposed to our hot summer sun and are desiccated. With the weather conditions that occurred this did not happen. There were abundant cool cloudy days and little or no surface water accumulation. Some windrows had to be left in the field because of the rain and this supplied cover for the worms to develop.
5. Alfalfa does not do well in waterlogged, oxygen-depleted soil either. Producers cannot pump off water if there is little or no accumulation. Normally, if there is ponding of water, producers will cut borders or pump to drain fields. That was not possible on most fields. Alfalfa plants were then slower to start regrowth and were weaker, therefore more susceptible to insect attack and disease.
6. For unknown reasons normal chemical application and products have been ineffective.

How much damage is there at this time? Alfalfa can withstand complete stubble defoliation for 3-5 days; this occurs basically with each cutting. Complete defoliation for 7 to 11 days results in delayed plant development

and reduced yields but no reduction in quality; so if it is not caught right away or treated immediately, there is some wiggle room. The problem this year existed much longer than this. Some fields are still stubble 7 weeks after cutting. Variegated cutworm consumes 442 mg foliage over its lifetime. Translated to something more useful, that means each larva per sq ft would result in a 42-lb yield loss per acre or a 2% loss assuming a one ton expected yield per cutting. However, this is assuming no lasting damage just foliar losses, so you can't completely use this formula since it would greatly underestimate total damage. (e.g., 18 larvae /ft would consume 756 lb/A, yet that amount can completely suppress stubble). For stubble damage 18 larvae per sq foot completely suppresses growth of stubble for 10-15 days and that has occurred in the Pecos Valley. A lower population of 4.5-9.0 larvae per sq ft partially suppressed growth. Eggs are laid preferentially in moist low lying areas. Eggs will not hatch when temperature is a constant 95° F. Larvae reared at 95° F will not get past 4<sup>th</sup> instar (out of 7 instars) so they are fairly susceptible to high temperatures. We have not found any reports on responses to low relative humidity. This is not normal so there is a lot we do not know. We are also finding “other “insects that we just don't find here. One producer brought in two clover leaf weevils (*Hyperapunctata Fabricius*). I have never found these before. Many producers have to now plow down one year stands of alfalfa and replant. Current estimates of between 6 and 7 thousand acres may be low this year.

In summary, it has been a very interesting and devastating year for several hay growers in the Pecos Valley. There is little doubt that this year's weather conditions have contributed to increased insect activity, not only in the Pecos Valley but in several other locations throughout the eastern NM region. We've heard reports of treatable populations of bollworm in cotton and fall armyworm, true armyworm and true bugs (e.g., leaf-footed and stink bugs) in crops like corn and sorghum. Some fields of sorghum even had significant populations of greenbug. While a cooler summer and all the rain are really nice, they can come with an unexpected high price tag.



Live cutworms in ½ square foot area 4 days after treatment with Lorsban and Mustang Max (left). Stem stripped of bark and alfalfa field 3 weeks after cutting and the above chemical applications (right).

*Mark Marsalis*, Mark Marsalis, Extension Agronomist—New Mexico State University is an equal opportunity employer. All programs are available to everyone regardless of race, color, religion, sex, age, handicap or national origin, New Mexico State University and the U.S. Department of Agriculture cooperating.