



# QUAIL-NEWS

THE QUAIL-TECH ALLIANCE NEWSLETTER  
Summer 2012



Quail-News: Issue 8.0

## What's Been Going On?

By Brad Dabbert

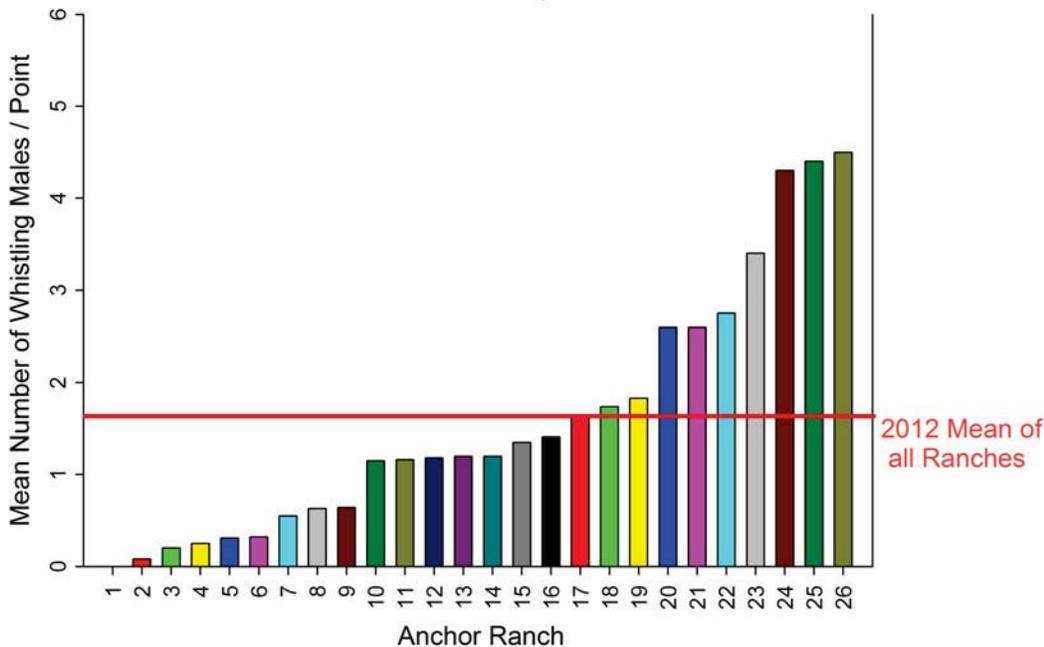
Spring and summer have been extremely busy; finding us wearing both our research and construction hats. We completed 489 whistle count points during the months of May and June taking a little encouragement from what we found. We detected an average of 1.6 northern bobwhite males per point during spring 2012. Though this number is significantly less than our 2010 estimate of 2.7 northern bobwhite males per point, the 2012 average is only slightly lower than the 2011 average of 1.7 males per point. Given the extreme drought that inhibited reproduction over most of the Rolling Plains during 2011 and the mortality that has occurred over winter (2011/2012), I am encouraged to hear birds in reproductive condition during the 2012 nesting season. Indeed, we are hearing reports of broods seen in many areas of the Rolling Plains. Birds have attempted second nests in some areas as well. Our supplemental feed study updates in this issue provide some details concerning the success in supplemental feeding and improved reproductive conditions overall for 2012. It is amazing what a little timely rain can do to produce forbs and insects.

### Land Management:

1. Continue supplemental feeding
2. Defer grazing or reduce stocking rates if possible



2012 Northern Bobwhite Whistling Male Count Results



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In our efforts to better understand quail demographics in the Rolling Plains we have initiated a program to monitor predator activity on ranches in the Quail-Tech Alliance program. We are using cameras to monitor scent stations that are placed on our ranches for 1 week. This process is ongoing and will be further described in the fall newsletter. For now I have included some pictures of the predators we are finding.

Photos of various predators approaching scent stations at QT Anchor Ranches.



The arrow marks the scent tablet.



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Our construction efforts are rapidly approaching completion. You will recall from previous newsletters our efforts to construct a research facility that includes indoor facilities and outdoor pens (see accompanying photos). The major thrust of the facility so far has been the production of wild-strain, parent-reared chicks. We are collaborating with the Tall Timbers Research Station in Tallahassee, FL (who developed this rearing method; see newsletter issues 6.0 and 7.0) to develop our parent-reared chick program and are poised for chick releases on anchor ranches during August, September, and October. See newsletter issues 5.0 and 6.0 for an explanation of the differences between parent-reared chicks and conventional pen-reared chicks. A portion of the parent-reared chicks that we release will be fitted with radiotransmitters so that we can monitor their survival and movements during the fall and winter. The goal of this program is to place birds on the ground on our anchor ranches where habitat has been modified to be suitable for quail, but where drought or isolation have prevented timely colonization by wild populations. Several other experiments will be starting in the next two months concerning the areas of nutrition, disease resistance and flight in this new facility. Again, we thank the Hill Country Quail Coalition and the Burnett Foundation for their generous donations and continued support.



A chick pen ready for a hen and adopted chicks.



Wild-strain chicks look out from under the warm feathers of their adopting parent inside a chick pen at the Quail-Tech Alliance facility. Though we

have seen improvement in this year's reproductive efforts, it is important to look at the reality of our situation. We are coming off what is probably the worst drought on record and the corresponding reproductive failure. Environmental conditions improved during winter and spring 2012 allowing an improved 2012 reproductive effort. However, we cannot expect populations to rebound within a single year. Hopefully our outlook for precipitation will continue to improve (as forecasted for later this year with a coming El Nino) and we can experience another successful spring in 2013.



A hen and her adopted chicks in a chick pen at the Quail-Tech Alliance facility.

# Study Update: Does the broadcast of supplemental feed into roadside vegetation influence bobwhite quail chicks?

By Alicia Andes and Brad Dabbert

You have been reading in past Quail-Tech newsletters about our efforts to estimate the influence of supplemental feed on northern bobwhite chick growth and survival. Unfortunately, the extreme drought conditions of last summer (2011) severely restricted the collection of sufficient data to determine whether the addition of milo broadcasted into the habitat influenced bobwhite quail chick survival and growth. As a quick review of last summer's data, there were a total of 158 chicks hatched on feed sites in 18 broods compared to only 27 individuals in 3 broods within no-feed areas. Survival of prefledged ( $\leq 14$  days old) chicks did not differ between feed and no-feed treated areas (2011 feed chick survival = 13.3%, 2011 no feed chick survival = 14.8%). Due to low survival and growth caused by the drought conditions, we were unable to determine postfledge chick survival during 2011. In addition, we did not detect any postfledge chicks in no-feed areas. The only chick in feed areas that we were able to track died by the age of 75 days.

Our methodologies for the 2012 summer reproductive season are the same as last year except for 1 major difference: we attached smaller transmitters (0.4g instead of 1.2g) to younger chicks (12-13 instead of 25-30 days old) this season. As of July 15<sup>th</sup>, we examined 14 broods- 6 feed and 5 no-feed- with the thermal camera at 4-5 and 12-13 days to determine chick survival. Of the 96 chicks that comprised the 6 feed broods, 19 reached the age of 12 days (19.8% overall survival rate). The 5 no-feed broods consisted of 63 total chicks in which 13 survived to the age of 12 days (20.6 % overall survival rate). The 2012 survival rates are greater than last year but do not differ between feed and no-feed areas. Our results suggest that the addition of supplemental feed does not influence prefledge chick survival. We attribute the increase in survival rates from 2011 to 2012 to greater invertebrate abundances due to increased rainfall.

To determine postfledge survival rates, radiomarked chicks were tracked until they were abandoned by their brooding parents or when they reached the age of 50 days. In the areas treated with additional supplemental feed, 18 transmitters were attached to 12-day old chicks (Figure 1). Likewise, we affixed 10 transmitters to chicks hatched in areas with no additional feed. As of July 15<sup>th</sup>, I confirmed the survival of 5 chicks  $\geq 38$  days in feed areas and recaptured 2 to remove their transmitters and measure weights (Figure 2). We have yet to confirm the survival of any control chicks  $\geq 30$  days old.



Fig. 1 - A 12-day old chick fitted with a 0.4 g transmitter modified to attach via a harness style that was released and tracked to determine survival on the 6666 Ranch.



Fig. 2- One of two chicks from the same brood, at 38-days old, in a feed area that was captured to remove its transmitter at the 6666 ranch.

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A second year of data collection offered the opportunity to compare chick weights between years and treatments (Figure 3). It seems that the addition of supplemental feed did not influence pre-fledge chick weights at 4 or 12 days of age during either year. However, there seems to be a significant increase in the weights of 12 day old chicks during the 2012 season compared to 2011 (17 g for 2012 feed chicks >11.3 g for 2011 chicks; 16.7g for 2012 no feed chicks > 10.0 g for 2011 chicks) that can also be attributed to greater invertebrate abundances due to increased rainfall.

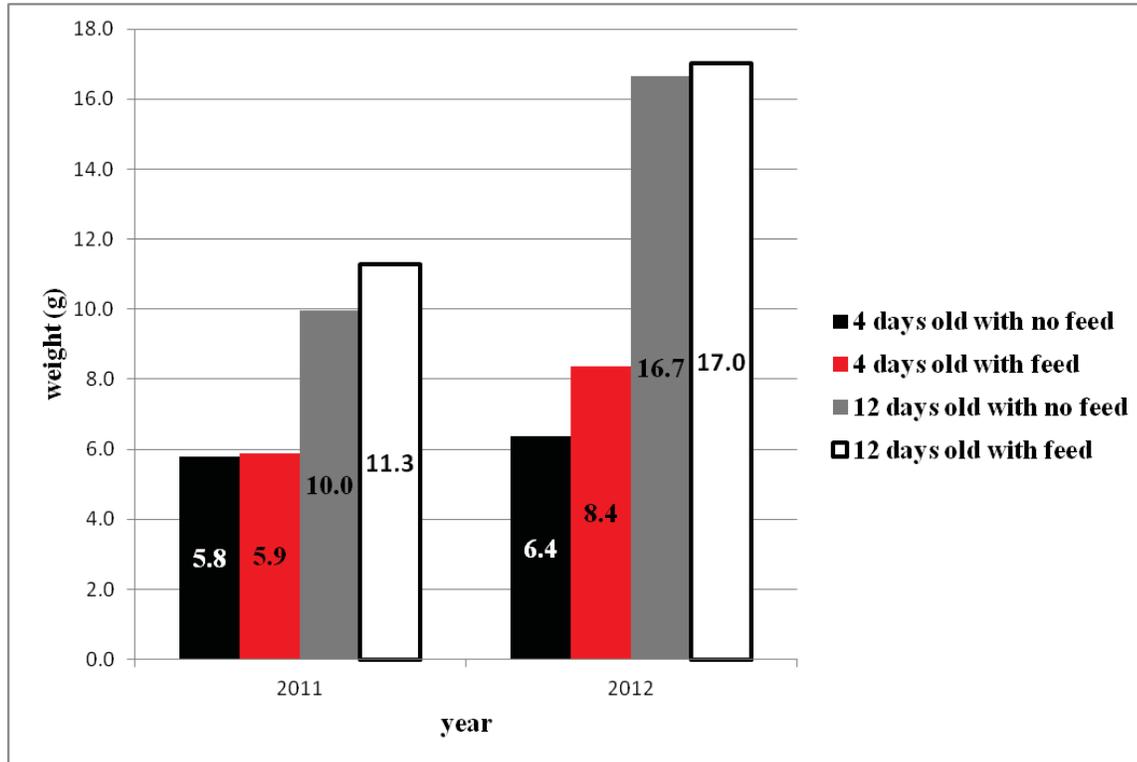


Fig. 3- A comparison between weights of chicks exposed to feed and no feed conditions at the 6666 Ranch during the 2011-2012 reproductive seasons.

Nonetheless, the use of supplemental feed broadcast into the habitat has helped chick production. For both seasons, there were more chicks hatched in areas supplied with feed than in areas receiving no supplemental feed. Even though supplemental feed does not seem to influence survival rates, more chicks will survive due to feed because production is higher than no-feed areas. Hopefully, future analyses of radiomarked chicks will provide a clearer picture of the effects of supplemental feed on postfledge survival.

## **GRAZING RECOMMENDATIONS FOR SUMMER AND AUTUMN 2012 - DON'T, IF POSSIBLE!**

By: Ron Sosebee

This has been another tough year for many of us in the Rolling Plains. However, recent information released by Reuters (via TSCRA News Update, July 5, 2012) indicates that el Niño weather will emerge later this year. It would be a blessing should the weather patterns change and become wetter than we have experienced for nearly two years, or longer. In the meantime we have no choice except to play the hand that we have been dealt. If you still have livestock on your ranch, you should especially pay close attention to the impact that they are having on your forage resources. Many areas have lost vegetation. In many areas, buffalograss plant communities have been the hardest hit. Because buffalograss is a shallow rooted grass, much of it has died. Other plant communities have lost as much as 15-20% of their grasses.

If, in fact, el Niño "kicks in" and rainfall begins later this year, it is still not time to restock. The grasses and shrubs have suffered a severe setback and rainfall during the late summer-early autumn will give the plants a chance to recruit tillers in grasses and buds in shrubs and trees and to store carbohydrates from which next year's growth will come. So, we need to give the plants a chance to respond. Autumn rains also trigger germination in many of our "weedy" forbs. If the winter remains relatively wet, regardless of the temperatures, these weeds will overwinter as rosettes and be ready to grow immediately next spring as soon as the day length becomes longer than the threshold required for growth to begin. The weeds will have a jump on the grasses. If we should have a wet winter, food should be more available for quail next spring than we have experienced for the past two years.

If you have destocked and relocated your livestock, and we have a wet autumn and winter, then evaluate your forage resources after frost this autumn to determine if you have sufficient forage to restock next spring. If your forage base has not recovered from the drought, then you would be wise to defer grazing again next year to give your grasses and forbs a chance to rejuvenate themselves. We can have our "cake and eat it too", if we take care of our range resources, and at the same time provide a better habitat for the quail.

Ronald E. Sosebee  
Professor Emeritus  
Texas Tech University

**!!FIELD DAY, SEPTEMBER 22ND!!**

Save the date!  
The next Quail-Tech Field Day will be held  
**September 22**, location TBA.

# Study Update: Supplemental Feeding on the 6666 Ranch - Summer 2012

By Byron Buckley and Brad Dabbert

We are currently monitoring nesting hens for our last year of data collection for the supplemental feed study that was initiated in the fall of 2010 on the historic 6666 ranch (See previous Quail-Tech newsletters for additional information). We have had a little more rain than last year, but we are cautiously optimistic about this year's nesting season. So far, we have documented earlier nest initiation dates (~2weeks) than last year. Hens on fed sites (areas that receive milo) began nests 2 weeks earlier than hens on control sites (areas that do not receive milo). Currently, we have documented a total of 35 nests (20 fed / 15 control). This year's nesting activity (35 nests and counting) is better than the previous nesting season (35 total nests all season). The majority of the radio-marked hens have begun a second nesting attempt. To date 45% of fed and 46% of control nests have been successful with roughly 25% depredation on both treatments.

We have been monitoring survival of all hens on the study site since their date of capture/release and will continue until Sept. 30<sup>th</sup>. Currently, survival of hens on fed sites is greater than those on control sites (59% fed, 27% control; see accompanying figure). Survival estimates of hens on areas receiving feed are higher this year than during 2011 (2011 survival estimate for areas receiving supplemental feed was 38% and 20% on control areas, respectively). These results provide additional support for providing supplemental feed into vegetation near the road, but not on the road.



A radio-marked hen leaving the nest for her morning feeding time. The arrow marks the nest.



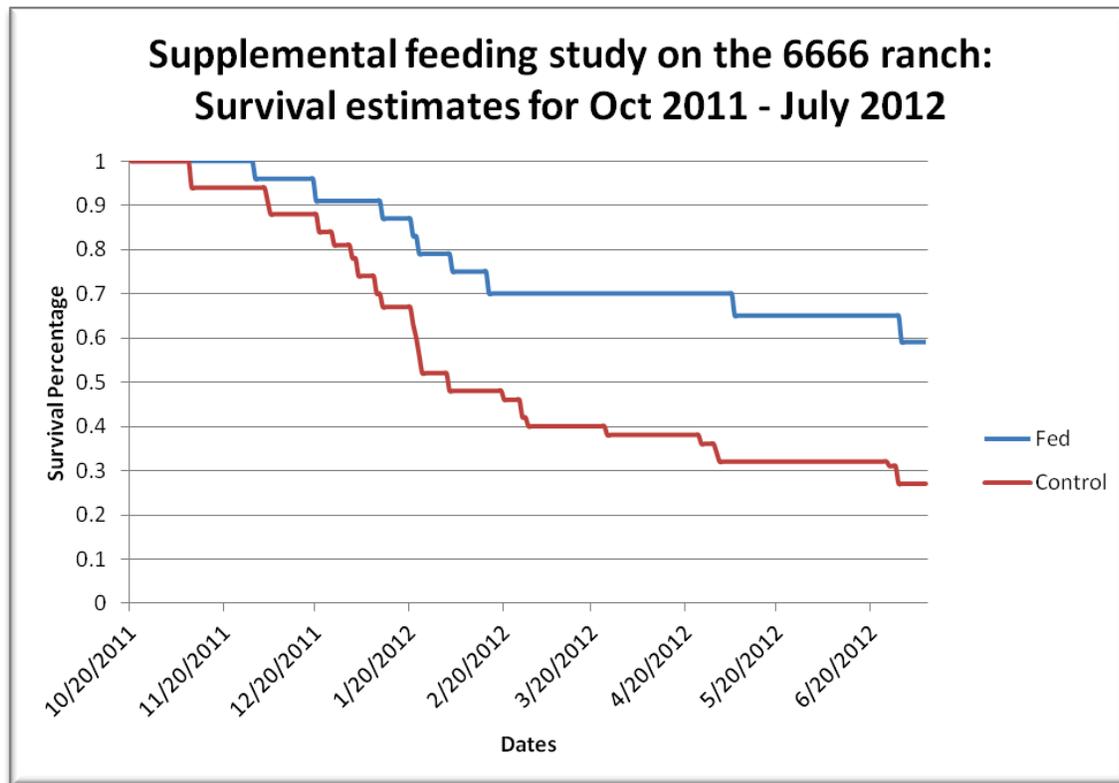
A successful nest which hatched 12 chicks on a fed area of the 6666 Ranch study site during the 2012 nesting season.

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A major complaint about providing supplemental feed for bobwhites has been the reduced home-range or concentration of birds that is suggested to increase depredation or disease transmission (Frye 1954, Sisson et al. 2000, Doerr and Silvy 2002, Haines et al. 2004). Analysis of home-range data for our study is almost complete for 2011 and 2012. Our home-range analysis suggests that supplying supplemental feed into vegetation near the roads has little impact on home-range size. During the winter of 2010-2011 hens on control and fed sites averaged ~ 46 hectare home-ranges. Preliminary analysis of this year's data shows that fed sites have slightly larger home-ranges than control sites, 49 and 45 hectares, respectively.

We are excited by these results and are still analyzing data that are being collected. We will be reporting on these finds as soon as possible.



*Citations:*

Doerr, T. B. and N. J. Silvy. 2002. Effects of supplemental feeding on northern bobwhite populations in south Texas. Pages 233-240 in S. J. DeMaso, W. P. Kuvlesky, Jr., F. Hernandez, and M. E. Berger (eds). *Quail V: Proceedings of the Fifth National Quail Symposium*. Texas Parks and Wildlife Department, Austin, USA.

Frye, E.O. Jr. 1954. Studies of automatic quail feeders in Florida. *Transactions of the North American Wildlife Conference* 19:298-315.

Haines, A.M., F. Hernandez, S.E. Henke, and R.L. Bingam. 2004. Effects of road baiting on home range and survival of northern bobwhites in southern Texas. *The Wildlife Society Bulletin* 32:401-411.

Sisson D.C., H.L. Stribling, and D.W. 2000. Effects of supplemental feeding on home range size and survival of northern bobwhites in South Georgia. In *proceedings of the fourth national quail symposium*, L.A. Brennan, W. E. Palmer, L.W. Burger, and T.L. Pruden (eds). Tall Timbers Research Station, Tallahassee, Florida, USA. pp. 128 – 131.