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Cacti and Quail: A Prickly Paradigm by Dale Rollins

When debating the relative and absolute merits of some plants, I am often thrust in the role of public defender. It might be broomweed, mesquite, cedar, or sandburs. The pariah du jour is prickly pear, several species of which occur across Texas. You don't need a photograph to conjure its image.

Prickly pear serves as a succulent version of Dr. Jekyll and Mr. Hyde, and the plant's reputation can be quite different in the Brush Country versus the Rolling Plains. South Texas ranchers tend to see "pear" as drought insurance-their more northern counterparts typically just see it as a pain. The former sees the advancement of the *Cactoblastis* moth as a threat, while the latter can't believe the USDA is trying to slow its advance towards Texas. As the graffiti on the back of the men's room door at a burger shop in Grape Creek opines "where you stand on an issue usually depends on where you sit."



A prickly paradigm indeed.

My perspective on prickly pear has evolved over the past 25 years. Back in 1985, my son Travis (then 5 years old) accompanied me on a rabbit hunt in southwestern Oklahoma. Neither his footwear, nor his balance, was up to the task, and repeatedly he was trapped amongst a prickly pear patch. As I pulled spines from his shins for the third time, he whimpered to me "Daddy, why did God make cactus anyway?"

It would be 20 years before I could answer him. Maybe the good Lord is a quail hunter.

Through various research efforts in north and west Texas, we've observed that (1) quail often select prickly pear for nest sites, even when more conventional bunchgrass is available (and especially when it is not due to drought or overgrazing!) and (2) nests situated in prickly pear generally survive at higher rates (sometimes up to twice as high) than their grass counterparts.

Bobwhites with purple faces attest to the cacti tuna's seasonal importance as food and water. Prickly pear is also a staple in the diet of white-tailed deer -it's nearly always in the "Top 3" plants of deer diets in west and south Texas.

I offer 4 perspectives on cactus relative to quail habitat and quail hunting: 1) cactus gets too thick for hunters before it gets too thick for quail; 2) cactus affords nesting sites that can buffer impacts of overgrazing and drought; 3) cactus can serve as refugia for desirable grass species (i.e., a governor against overgrazing), and 4) larger mottes of pear serve as "storm shelters" when a Cooper's hawk is your main storm in life.

Which leaves us with these management guidelines for quail and cactus:

1) some cactus is beneficial, but past some threshold it becomes a liability (at least to quail hunting). Exactly what those thresholds are have not been defined; proceed at your own risk;



2) if you can manage cacti with prescribed fire (alone), that regime is likely more quail-friendly than herbicide-only. Fire alone doesn't kill much pear (perhaps 20% using winter-fires, perhaps 75% using summer-fires), but does a good job on tasajillo (turkey pear) and tends to stimulate forbs important for

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Ask Dr. Dale?

Q: We have acreage north of Jacksboro which, until a couple of years ago, was nicely populated with quail and turkey plus numerous owls. Now we have no quail, no owls and have not seen turkey in over a year. At one point, I counted 76 turkey in one flock. Now, nothing. Any correlation between the demise of the quail and the turkey/owl population? Anything we can do to help? - JG

A: I know turkeys have vacated a lease property that I was on in Coke Co. similar to your situation. Turkeys are more mobile than quail, so it's possible they "left for better country", i.e., especially some historic winter roost. They may have suffered from whatever maladies that affected quail (pick your poison: predators, drought, disease, . . .). I can't comment on the owl disappearance; I presume they were great-horned owls. As a "generalist" predator, they're a survivor; a disease possibly (e.g., West Nile Virus, although I've seen no reference to WNV in owls, but it can impact other raptors. Raptor abundance (mostly northern harriers and Cooper's hawks) at RPQRR at this time is about 1/3 of that observed this time last winter.

Quail Flashback

"Robert J. Kleberg, Jr., said many times that in his view wildlife

seed-production. Alternatively using a prescribed burn before spraying allows you to reduce chemical rate (when using picloram) by one-half, thus minimizing liabilities associated with the heavier rate while reducing costs.

3) spraying in strips or using Individual Plant Treatments (i.e., with an ATV) to create a cactus-studded landscape seems logical, but again their impacts on quail numbers have not been researched.

One of the main concerns about controlling prickly pear with herbicides from a wildlife standpoint is that of "forb shock", i.e., a suppression of forbs for some time period following application. The debate revolves around (a) how long such forb shock lasts (months post-treatment), (b) whether or not such vegetation changes affect game populations, and (c) if so, how much and for how long.

Another undesirable is that picloram kills hackberry trees, which are among the most wildlife-friendly of woody plants. As the carpenter warns "measure twice and saw once."

At the Rolling Plains Quail Research Ranch, we have mucho pear, too much to suit a bird dog for sure. My dogs just run the roads anymore-are they wimps, or just savvy? We're developing a plan of attack to strategically remove cacti while minimizing impacts on hackberries. The ranch is dissected with abundant roads, which results in a landscape characterized by "polygons" ranging in size from four to forty acres.

Each of the polygons has been mapped for prickly pear (a score from "0" [no cactus] to "3" [dog-hair thick]) and hackberry trees (same score of relative abundance). In 2010, we're set to test various herbicides with/without winter- and summer-burns. Riparian areas (where hackberry abundance is greater) will be burn-only. We'll evaluate boomless nozzles and helicopter applications as ways to be creative with the pear control efforts. Over the next couple of years we'll monitor forb and arthropod response to the treatments.



One of the puzzling scenarios at RPQRR is that where prickly pear is most dense, so is Texas wintergrass. Which came first I don't know, but the pattern is pervasive across the Ranch. On March 16, 2009 we burned some of these areas. The Texas wintergrass was tinder dry, and the fires were much hotter than one would've predicted given the fuel loads.

We're also evaluating "patch-burn-grazing" as a quail-friendly approach to prickly pear management. The objective is to see if a small herd of (Angus) cows will selectively graze freshly-burned cacti enough to provide a measure of biological control. At this point in the research, it does not appear that the cows are consuming enough cacti to be effective at controlling the cacti. This winter, we've added some "Tiger Stripe" Brahma X Hereford crossed cows to our herd to evaluate breed differences in cacti consumption.

Cadence call (Conservation cadences from the [Bobwhite Brigade](#))

If you think

Quail are neat,

Then don't clear

All that mesquite.

Loafing cover, plum and lote,

Save a little,

Don't miss the boat.

In the News

RPQRR announces first Research Partner

RPQRR introduced the "Eastern Range Initiative" and its call for "Research Partners" last March in Dallas at the Park Cities Chapter of Quail Unlimited. The Rocosco Ridge Ranch in Bosque County, owned by Bruce Berg of Dallas, has signed on as the inaugural Research Partner. Research efforts there will be directed by Dr. Dean Ransom, a research scientist with Texas Agrilife Research. For additional information about the Research Partners effort, e-mail [Dr. Ransom](#). Of note, Mr. Berg's daughter Bethany was a graduate of the 16th Battalion of the Rolling Plains

management was the most neglected phase of agriculture. Similarly, parasites and disease are the most neglected phase of wildlife research, at least in Texas. This condition, it is hoped, will not persist through another half century." -- V. W. Lehman (1984; Bobwhites in the Rio Grande Plains of Texas, p. 214).

Reader Poll

Which types of hunting aids do you use while quail hunting?? To participate, [\[Click Here\]](#).

Plant of the Month

Netleaf hackberry - One of my favorite woody plants in west Texas is netleaf hackberry. See attached plant profile prepared for QuailMasters '09 class by Ricky Linex. Of special interest to students of quail are 2 things: (1) seeds of hackberry become especially important seeds for quail during ice and snow storms in northwest Texas, as the seeds stay on the tree throughout much of the winter, thus available to quail when others are snow-covered; and (2) hackberry trees are susceptible to picloram, which is often used for cacti control. Caveat emptor. Please [\[Click Here\]](#) to read more about Netleaf Hackberry.

Blues Bros.

RPQRR met with a corps of interested landowners in Midland last September to initiate a "**Western Range Initiative**." The goal of the WRI is to define and coordinate research on blue quail in the Permian Basin, which is perhaps the largest area of "unstudied" quail in the U.S. RPQRR and Texas Agrilife Research conducted counts of breeding scaled on a number of "UT lands" from 2007-09 in conjunction with University of Texas Lands - West Texas

Bobwhite Brigade last June. What better daddy-daughter activity than sharing a May morning doing whistle counts?

Quail Coalition Takes Wing

You've likely heard that Quail Unlimited has had its share of problems recently. I've belonged to QU since 1985 and have been a regular columnist, supporter, and friend since that time. Various discussions of reorganization have arisen since that time. In the aftermath, the Park Cities Chapter renounced its charter and formed its own non-profit "[Park Cities Quail](#)." PCQ has been the fundraising wing under the RPQRR since its inception, donating almost \$1 million in the past three years for operating expenses. And as of Dec. 21, other Texas Chapter QU chapters decided to follow suit and collectively form a new nonprofit called the "**Quail Coalition**."

According to QC's website, their mission is: "*To sustain and restore huntible wild quail populations, to encourage and educate interested youth and to celebrate our quail hunting heritage in this region.*" Each chapter of the Quail Coalition is dedicated to creating a network of local quail hunters for fellowship, raising money for worthy projects and funding important quail research. See www.quailcoalition.org for details.

Bobwhite Brigade Seeking Youth AND Adults

The Bobwhite Brigade celebrates its 18th anniversary this summer. Two Bobwhite Brigade camps are held (Rolling Plains and South Texas). See www.texasbrigades.org for applications and camp dates. Adults are encouraged to sign up as "Covey Leaders"; stay for an hour, and you'll be impressed; stay for a day, and you'll be amazed, stay overnight, and you'll become an indentured servant to the Brigades.

3rd Annual Distinguished Quail Lectureship set for January 29

ROBY, TEXAS--The 3rd annual Distinguished Lectureship in Quail Management will be held in Roby, Texas on January 29, 2010 according to Dr. Dale Rollins, director of the Rolling Plains Quail Research Ranch (RPQRR) located just west of here. Rollins says the program will be of interest to all "students of quail", whether they be landowners, hunters, or biologists.

This year's featured speaker is [Dr. Fred S. Guthery](#), a research scientist with Oklahoma State University in Stillwater, Oklahoma. The theme for the conference is "The Science of Quail Management."

"Dr. Guthery literally wrote the book on quail management in the southern plains, actually three books!" Rollins said. "His experiences stem from Texas Tech University to the Caesar Kleberg Wildlife Research Institute in south Texas, and more recently to Oklahoma."

"Guthery is the quintessential quail scientist. His quail legacy in the scientific literature is without rival" Rollins noted. "His comments may step on some toes-at the very least he will make you re-think what you thought you knew about quail management."

Guthery has authored several books, including "Beef, Brush, and Bobwhites", "On Bobwhites", "The Technology of Bobwhite Management", and his most recent "A Primer on Natural Resource Science." He has authored more than seventy journal publications and numerous popular articles on bobwhites.

"When the Rolling Plains Quail Research Ranch was created in 2007, I wanted to host an annual meeting to showcase leaders in quail management from across the U.S. The past two year's meetings have drawn standing-room-only crowds. I expect this year's meeting to be equally as exciting" said Rollins.

In addition to Guthery's lectures, there will also be updates on various research and educational efforts conducted at the RPQRR. The new research ranch, a 4,700-acre property located in western Fisher County serves as a laboratory and classroom for those interested in sustaining quail populations in west Texas.

The program is sponsored by Rolling Plains Quail Research Ranch, Texas Agrilife Research, Texas Agrilife Extension Service's Quail Decline Initiative, and Park Cities Quail.

Registration for the meeting is \$15 by January 15, and \$25 thereafter and at the door. Seating is limited to 100 people. Registration includes lunch and refreshments. Two CEUs are available for those holding Private Applicator's licenses. Registration information, and additional details, can be found at www.quailresearch.org or by calling 325-653-4576.

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Operations. Preliminary findings suggest spring whistle counts were accurate indicators for several indices of summer production (e.g., helicopter counts).

By the Numbers

RPQRR has 700 acres of "CRP", i.e., grassland enrolled in the Conservation Reserve Program. Our contracts will expire in 2010 and 2011. Most of the CRP is seeded in kleingrass, but we disced 5% of the fields in 2008 and planted sorghum alumum to enhance its use by bobwhites (with moderate success). Last November we planted these strips to various cool-season annuals like wheat, hairy vetch, and Austrian winterpeas; our goal with those plantings are two-fold: (1) provide green firebreaks, and (2) to jump-start insect populations next May. We hope to get alternating strips in our CRP fields burned before March 1.

MBATR

That's "meanwhile back at the ranch" . . . January activities include surveillance of radiomarked birds, photo-surveillance of feed sites, prescribed burning. The Ranch will host county commissioners and county judges from surrounding counties on January 27 to discuss the importance of prescribed burning.

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