

## STATE 4-H FOOD PLOT CONTEST FOR WILDLIFE HABITAT IMPROVEMENT AND YOUTH EDUCATION

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*Abstract:* A state 4-H wildlife food plot contest entitled *F.A.C.E.* (Food And Cover Establishment) *For Wildlife* was started in Tennessee in 1972. The contest involves 4-H members planting perennial food and cover plots with 5 lb. seed packets furnished free by the Wildlife Resources Agency. The 4-H'ers are required to keep accurate records on their plots. Plots are judged at the county level by the county Extension Agent and the Wildlife Officer, at the regional level by the WRA Regional Farm Game Biologist and one other person from another agency, and at the state level by the Extension Wildlife Specialist and the WRA State Farm Game Biologist.

Awards include ribbons, shoulder patches, and conservation magazine subscriptions at the county level, cash at the regional level, and cash and trophies at the state level. Data concerning the value of food plots to wildlife were gathered during judging, and from records kept by 4-H'ers. These data were compared with data previously gathered concerning a seed distribution program for adult landowners.

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Numerous authors have dealt with the problem of improving wildlife habitat, especially farm game habitat on private lands (Frye 1961, Hornsby, et al. 1962, Sullivan et al. 1963, Marshall 1953, Byford 1974). Most managers agree that habitat improvement is the key to increased numbers of farm game. A habitat improvement effort used extensively in the southeastern United States in past years has involved planting food and cover strips for farm game in strategic edge situations on farmlands. In most states, seed packets or seedling bundles have been distributed to farmers and sportsmen for planting.

Sullivan et al. (1963) indicated that by 1960, 6 million dollars had been spent in the Southeast by state wildlife agencies on "give away" programs, with few apparent results. Marshall (1953) and Hornsby et al. (1962) listed shortcomings of "give away" programs:

1. materials not delivered
2. failure of landowner to plant materials
3. poor planting pattern
4. poor survival of plantings

Even though farmers may be somewhat interested when first approached, they often lose this interest before receiving free planting materials and fail to use them properly—if at all (Marshall 1953, Sullivan et al. 1963).

These authors observed that farmers are generally receptive to farm game habitat improvement such as food and cover plots or strips. They just won't go to the trouble of planting them. There seems to be 2 main reasons for lack of participation among farmers:

1. lack of *incentive*
2. need for *education* (for example, many farming practices could be slightly altered to benefit quail without change in income—but farmers don't know it). In order for farmers to become interested enough to learn, they must first have an incentive.

One of the weaknesses of most programs designed to stimulate wildlife plantings on private lands is a lack of incentives for landowners. And incentives adequate to stimulate adults are often hard to provide, while incentives to motivate youngsters—to *do* as well as *learn*—are considerably easier. Competition, award, and recognition help provide incentives for what otherwise would be hard work and study. Contests provide the vehicle to accomplish the above, and contests have long been a tradition in the 4-H organization.

## MATERIALS AND METHODS

With this philosophy in mind—incentive as the key to motivation—the Tennessee 4-H F.A.C.E. For Wildlife Contest was originated, with sponsorship by the Tennessee Wildlife Resources Agency and the Agricultural Extension Service. F.A.C.E. means Food And Cover Establishment. The contest involves 4-H members planting permanent wildlife food and cover plots with five pound seed packets furnished free by the Wildlife Resources Agency. Accurate records are kept by the 4-H'ers, and plots and records are judged in the county by the county 4-H Extension Agent and the county Wildlife Officer. Winning county plots are judged at the regional level, and regional winners are judged at the state level.

## CONTEST RULES

As with most contests, contestants must follow certain rules. For example, only 1 bag of TWRA seed may be planted, and no extra seed of any kind may be added to the plot. Contestants may plant more than 1 plot, but only 1 may be entered in the contest. Four-H members of all ages are eligible, and they need not be enrolled in the Wildlife Project to enter. Finally, any plot damaged by livestock will automatically be disqualified. Two other rulings had to be made after the contest became well established:

1. 4-H'ers with plots out-of-county or out-of-state must enter the contest in the county where they are enrolled as a 4-H member.
2. A group (or siblings) may enter one plot collectively, if they desire.

The contest is designed so that 4-H members may enter whether they live in an apartment building or on a 1000 acre farm. If their parents do not own land, they may plant their plots on someone's farm, a city park, schoolground, etc. Location, size and shape are very important, but plots are judged primarily by how well they are planted and located within the area the 4-H'ers had to work. This gives all 4-H'ers an even chance, no matter where they live. As a matter of fact, Regina Herron who won first place in the state in 1974, planted her winning plot in the city limits of Bolivar, Tennessee.

Four-H'ers have the opportunity to improve conditions around their plots with "little extras" that increase their chances to win. For example, 1973 state winner Ellen Williams of McMinn County placed a brush pile at the corner of her plot. She also asked her dad not to mow a strip of broomsedge along one edge of her plot in order to improve nesting cover conditions. Jeff Church of Hickman County won third in the state in 1973. He planted a strip of corn on each side of his plot, letting weeds grow between rows and stalks. Even though rules specify that no seed can be added to the mixture, planting extra seed outside the plot is allowed. This is seldom necessary, but in Jeff's case, it did improve conditions around his plot.

## Timetable

After a few years of trial and error, the following timetable for the contest was developed and appears to be workable:

- Jan. - Extension Wildlife Specialist mails brochures explaining contest to County 4-H Extension Agents.
- Jan. - Feb. — 4-H Extension Agents distribute brochures to 4-H'ers during club meetings.
- March 1 - deadline for 4-H'ers to return seed applications (attached to brochure) to County 4-H Extension Agent.
- March 15 deadline for County 4-H Extension Agents to mail all brochures to Extension Wildlife Specialist.
- April - delivery of seed packets to County 4-H Extension Agents. Seed are hand delivered by County Wildlife Officers.
- April - May 15 - Delivery of seed packets to 4-H'ers by County 4-H Extension Agents—during 4-H club meetings..
- May 15 - June 15 - planting of plots by 4-H'ers
- Sept. 20 - Oct. 15 - County judging

Oct. 20 - Nov. 15 - Regional judging  
Nov. 20 - Dec. 10 - State judging  
Dec. 10 - Dec. 20 - news release of county, regional and state winners. It is *very important* that public news releases be made *after* County 4-H Extension Agents and County Wildlife Officers are informed.

## Awards

A generous award system is provided for this contest:

County:

- 1st - blue ribbon, shoulder patch, subscription to state wildlife magazine
- 2nd - red ribbon, subscription to state wildlife magazine

Regional:

- 1st - enters state contest and receives one of the four state awards
- 2nd - \$50
- 3rd - \$25

State:

- 1st - \$300, trophy, banquet ticket
- 2nd - \$200, trophy, banquet ticket
- 3rd - \$100, trophy, banquet ticket
- 4th - \$50, trophy, banquet ticket

In addition to awards listed above, many county contests are sponsored by local sportsmen's clubs, Audubon clubs, etc. These clubs recognize county winners during regular club meetings and present them with trophies, cash and other miscellaneous award. Regional awards are sometimes presented during TV sportsmen shows, and state awards are presented during the annual meeting of the Tennessee Conservation League (state affiliate of the National Wildlife Federation).

Of course, one of the best incentives in this contest is the publicity and news coverage 4-H'ers receive by both agencies (Wildlife Resources Agency and Agricultural Extension Service). Numerous radio, TV and newspaper articles are prepared on local, regional and state levels.

## Data

Data were gathered concerning plot quality from county judges' score sheets. Participation level data were gathered from county Extension Agent surveys, and other plot data were gathered from members' plot records.

## Miscellaneous

It was found that the success of the contest depended primarily on the acceptance by County 4-H Extension Agents and County Wildlife Officers. At the beginning a slide set explaining the contest was developed. Inservice training sessions were held across the state for both groups. Careful attention was paid to informing county professionals concerning contest development, judging schedules, winners, etc.

Once the contest was fully underway, county professionals conducted it with very little coordination from the state or regional levels. Some county personnel were very innovative. For example, one agent—officer team conducted a day of training for 4-H'ers on planting a food plot. They first showed the contest slide set to the group, then took them to a farm where a food plot was to be planted. The 4-H'ers were divided into teams and asked to find the best location. The seedbed was prepared and the plot planted while the 4-H'ers watched.

## RESULTS AND DISCUSSION

### Seed Mixture

Initial contests involved an annual seed mixture—buckwheat, grain sorghum, German millet, cowpeas, and Korean lespedeza. This mixture was showy and well accepted by 4-H'ers and judges alike. In 1975 a perennial mixture was substituted, so

that these 4-H'ers' efforts would begin providing a continuing inventory of permanent plantings for farm wildlife in the state. The new mixture contained bicolor lespedeza, Korean lespedeza, cowpeas, and soybeans. The two annuals were included to provide food for wildlife the first fall. Korean lespedeza would provide food for the first 4 to 5 years, and bicolor lespedeza would provide some food the second year and continue to get better for many years to come. Even though the perennial mixture was more expensive than the annual (\$4.00 compared to \$.95 in 1976), it was felt that the permanency of habitat development justified the extra cost.

One problem with this mixture was that it was not very showy the first fall—when judging occurred. Consequently, many 4-H'ers did not enter their plots in the contest, thinking that they were too weedy, or lacked a sufficient stand.

#### Participation Level

As can be seen from Table 1, for 1975 and 1976, 63 percent and 68 percent, respectively, of those 4-H'ers who received seed actually planted plots. A survey conducted by the Tennessee Wildlife Resources Agency in 1974 and 1975 (Marcum 1975 and 1976) revealed that 62 percent and 77 percent respectively, of the seed packets distributed to adults were planted. But, the adult survey also showed that adults tended to make plots larger than recommended. Instead of the recommended .05 to .1 ha plot, the average adult plot in 1974 was .2 ha and contained 1.67 bags of seed. In 1975 the average adult plot contained 2.08 bags of seed. Consequently, only 37 plots were planted for every 100 bags of seed distributed to adults each year. Four-H'ers on the other hand averaged one bag of seed per plot, or 63 and 68 plots respectively per every 100 bags of seed.

Four-H'ers also fertilized plots better than adults—75 and 81 percent compared to 49 and 64 percent.

Table 1. A comparison of participation levels between the 4-H F.A.C.E. For Wildlife Contest and an adult seed distribution program in Tennessee.

	4-H				Adult	
	1973	1974	1975	1976	1974	1975
No. of 4-H'ers Who Planted Plots and entered Contest	176	285	305	347	—	—
No. Counties (95 total)	17	45	65	55	—	—
No. Planting but Not Entering Contest	a	a	320	310	—	—
No. Not Planting Seed Received	a	a	363	317	—	—
% Seed Packets Planted	a	a	63	68	62	77
% Plots Planted of Packets Distributed	a	a	63	68	37	37
% Plots Fertilized	a	a	75	81	49	64

a Not determined

#### Plot Quality

As mentioned earlier, most adult plots were too large, but 75 and 70 percent, respectively, of 4-H'ers plots were judged about the right size by county judging teams (Table 2). Also most (71% and 69%) of the 4-H'ers' plots were found to be long and narrow—the shape recommended for wildlife plantings. Four-H plots were better located

than adult plots, with 93% and 91% judged either fair or good compared to 80% for adult plots in 1974. Health and vigor of stand of 1974 adult plots compared closely with 4-H plots in 1976, but were considerably higher for 4-H plots in 1975 (Table 2).

Table 2. A comparison of wildlife plot quality between the 4-H F.A.C.E. For Wildlife Contest and an adult seed distribution program in Tennessee.

		<i>4-H</i>		<i>Adult</i>	
		<i>1975</i>	<i>1976</i>	<i>1974</i>	<i>1975</i>
SIZE	About Right	75	70	—	—
	Too Small	21	25	—	—
	Too Large	4	5	—	—
SHAPE	Long and Narrow	71	69	—	—
	Short and Wide	12	18	—	—
	Other Shapes	17	13	—	—
HEALTH & VIGOR	Good	51	39	33	a
	Fair	37	34	38	a
	Poor	12	26	29	a
LOCATION	Good	66	64	40	a
	Fair	27	27	40	a
	Poor	7	9	21	a

<sup>a</sup> Not determined

#### Other Data

Other data generated from record sheets completed by 4-H'ers revealed that seedbeds of plots were well prepared, that most plots were planted at the proper time (May 15 - June 15) and that plots were well-utilized by wildlife (Table 3).

Table 3. Summary of records of plots entered in the Tennessee 4-H F.A.C.E. For Wildlife Contest.

	<i>1975</i>	<i>1976</i>
Percentage Who Soil Tested	25	35
Percentage Who Applied Fertilizer	75	81
Average Amount of Fertilizer Per Plot	100.2	114.5
Average Cost of Fertilizer Per Plot	\$6.67	\$6.15
Percentage Plots Planted 1 May-15 May	10	14
Percentage Plots Planted 15 May-1 June	24	35
Percentage Plots Planted 15 June-1 July	10	11
Percentage Observing Rabbits In Their Plots	59	69
Percentage Observing Quail In Their Plots	52	61
Percentage Observing Doves In Their Plots	17	27
Percentage Observing Deer In Their Plots <sup>a</sup>	16	38
Percentage Who Disked Seedbed At Least Once	91	100
Percentage Who Disked Seedbed 2 to 8 Times	71	72
Percentage Who Broke Seedbed	47	78
Percentage Who Harrowed Seedbed	24	34

<sup>a</sup> At least two 4-H'ers killed deer from their plots while hunting during deer season.

## CONCLUSIONS

In order to achieve wildlife habitat development on private lands, incentives are necessary to motivate private citizens to carry out this development. The 4-H F.A.C.E. For Wildlife Contest appears to be one good vehicle to provide these incentives. It appears that habitat development created as a result of this contest is superior to that created in an older established "give away" seed program for adults.

But more importantly, the most valuable asset of this program lies in its *education value*. Four H'ers, their parents, County 4-H Extension Agents, involved sportsmen's club members, and the general public—via news media—are all exposed to the need of farm wildlife habitat development—and one way to do it. And these 4-H'ers—whether they become plumbers, doctors, congressmen, or farmers—will understand, for the rest of their lives.

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