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Bumpers College Oral History Centennial Project

Interview with

David Andrews
Fayetteville, Arkansas
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Interviewer: Teddy Morelock

Morelock: Today we're visiting with Dr. David Andrews, who is emeritus professor of poultry science here at the University of Arkansas [Fayetteville]. David, you were born in Northwest Arkansas, is that correct?

Andrews: Yes, I was born in Rogers, Arkansas, on a farm about three miles north of Rogers.

TM: So, you went to high school at Rogers?

DA: Yes, I went to Avoca School for six years and then went to Rogers seventh grade through twelfth grade.

TM: You said you grew up on a farm. What type of farm? Was it poultry or livestock or . . . ?

DA: Well, we called it a poultry and livestock farm, I guess you'd say—and apples. We had about fifteen acres of apples, and that was our main work. It would be

all summer. Spraying them and so forth. And we had around nine or ten head of cows we'd milk, and we had chickens. We had a flock of white leghorns. Early, my granddad had brown leghorns, then went into white leghorns, and my dad trap-nested them and selected them. He sold stock all over the United States.

TM: So you more or less wound up in the business that your family was in, though, working with the breeding?

DA: That's true.

TM: Were you the first person in your family to attend the university or to go to college?

DA: Yes, I was. My brother was two years older than I was. When he graduated in 1939, he went to a business college. When he finished that he went to Washington DC and worked in Washington DC. I was the first one to attend the university.

TM: I assume you majored in animal science when you started the university.

DA: When I first started, I guess, I could have been animal science or just of general agriculture, but I had in mind to be a vocational agri[culture] instructor, and when I got close to graduation, I talked to Professor Smith. He'd been there a long time. He was in poultry at that time, and he encouraged me to get into poultry, so I got a Master's in poultry under him. From there on it was poultry and poultry genetics.

TM: So your undergraduate was probably just a general Ag[riculture] major, which was pretty much what everyone majored in back then, I think.

DA: I think so. I think that's right.

TM: Who would you say was the most influential person in your major? Professor Smith?

DA: Prof. Smith would be my most influential—he was my advisor there, and everything, and he advised me as I was finishing my Bachelor's. Then he was my advisor for my Master's.

TM: What was the university like when you first came here as a student? It was obviously smaller, but how was it different?

DA: Very small. It's hard to say how it's different. The teachers were—I don't know how to say it exactly—they were easy to get along with, and they tried to help each other—kind of family, more or less, and I think today it's beginning to get away from that.

TM: Were they easier in the classroom?

DA: No, I don't think it was any easier. They expected you to make the grade.

TM: Where were the bulk of your classes in those days? The buildings are quite different today than they were then.

DA: Yes, I guess all of them were in the Agri[culture] building—as far as Agri[culture] courses—were in the Agri[culture] building.

TM: What about the animal science courses? Where were they?

DA: They were over in the old dairy building.

TM: Which is basically where Silas Hunt is today?

DA: Where the Administration building is, yes, there on the corner. Dr. Gifford was the head of the animal sciences. It was an old building. He was up in the attic. He had his office in the attic.

TM: The current Animal Science building was probably built after you came back to the university.

DA: Yes, it was being built when I first started as an instructor, or soon after. I can remember being moved from the dairy building over there.

TM: I'm getting a little ahead of myself now. You did your doctoral work at the University of Missouri [Columbia], is that correct?

DA: Yes.

TM: How did you wind up there?

DA: Well, I was an instructor when I got my Master's. I worked for Dr. McClung in the cooperative, out west of town at a breeder farm. I worked for him out there until 1957, and that's when Dr. Gilbert retired, or—he didn't retire, he went to work in Oklahoma, so Doc Smith came out and wanted to know if I'd be up for making an application for a teaching job at the university. I hadn't thought about that at all. I said I'd think about [it], so I filled it out and they accepted it. I went to work as an instructor in the old dairy building, and went from there. I taught my first course in poultry. My first course I taught, I guess, was poultry judging because I'd just come in, and to get me used to everything, they just started me in easy, I guess. From there—let me see, where'd I go from there? In the old dairy building, and—what was the question you had, now?

TM: How you got back to the university.

DA: The teaching part of it? Yes, that's when Prof. Smith got me to apply for a position as an instructor there. I did that for a couple of years. Dr. Gifford was the head of the department then, and he talked to me one day and said, "If you are going to stay here and get ahead you need to get a PhD." I said, "Okay," so I applied several places—Oklahoma and Missouri—and I was accepted in Missouri, so I decided to go there under the geneticist there. I got my poultry genetics in Columbia, Missouri. It was a long process because I was teaching and I did a lot of my course work at the University of Arkansas, to apply to that. Then I took off in 1963 for a year, because you have to have a year's residency. I took off a year and went to Columbia. I spent a year there, and my wife taught first grade while we were there. Then I came back after a year and I did a lot of my work at night on my PhD—my project and thesis. We had an old, old computer in the department. I forget the name of it, but if it was in existence today it would be nothing. I worked at night on that and did all of my work there, up till midnight sometimes. I got used to working till midnight, but then I went back each summer to Columbia and worked there on my thesis and took my languages there during the summers. In 1966 I got my degree and came back.

TM: So you were actually on the staff here before you got your degree and more or less came back to the job you already had?

DA: Yes, I just got a leave of absence from the university for that year.

TM: I think it was fairly common in those days, was it not? Were you interrupted at all by WWII, or are you a part of the WWII generation?

DA: Yes, a little bit. Yes, I had a year and a half. I started in 1941 and had a year and a half. Of course, everyone was going to war or whatever, and my dad needed some work on the farm, so I had a deferment to work on the farm there. In 1946 I went into the air force and spent three years, then came back and finished my degree.

TM: So you basically had an agricultural deferment for a period? I think that was not uncommon in those days. I think my father had one.

DA: Yes, it was pretty common.

TM: What was your research area? You said your degree is in poultry genetics. Did you do just genetics, or did you do other things?

DA: It was, actually, really in genetics there. While I was there, I taught as an assistant. They gave me an assistantship to help pay for my work there, but my thesis was in recurrent selection of a leghorn flock my advisor had kept records of for about five or six years, and had it all on cards for a computer. So I just took the records he had for this recurrent selection and ran it through the computer there.

TM: What were you selecting for, egg production?

DA: Egg production, yes.

TM: And it was quite heritable?

DA: Yes, it was. It was quite heritable. He had two leghorn flocks and two hybrid flocks. You cross those like they always do to make a hybrid, then that was the recurrent selection that he used. He was trying it, and it worked very well.

TM: And what was your research area when you came back to Arkansas?

DA: Well, Dr. Gyles was the geneticist, so I didn't get into it too much, but I taught the first genetics course for a number of years. Then I taught poultry judging. They had those teams and then I taught poultry production. We had poultry production one and poultry production two, and in one or two years I had taught an advanced course in poultry production for our Master's degrees.

TM: So you had a fairly heavy teaching load?

DA: Yes, I had about half teaching, half research.

TM: I know the University of Arkansas has been quite competitive in poultry judging for many, many years. Tell us a little about how successful you folks were.

DA: Well, when I first came to the university in 1957, they were without a coach. One of the previous team members was coaching the team. His name was Wagner. They told me to take charge of that, but I didn't know much about [it] because I had done very little poultry judging, so I learned, in that first year, what they wanted in the poultry judging area. From there we just expanded and went along and we won many first places—hardly ever placed less than second or third, and did really well—had a lot of trophies.

TM: Now, these are national titles that you're talking about.

DA: Yes, these are national judging teams, yes. You learned [from] a lot of professors in different states that were participating.

TM: Well, I'm sure that in this process you saw many, many students that came through here.

DA: Oh, yes.

TM: Some of them probably went on to be quite successful in the poultry industry?

DA: Yes, and every once in a while you meet someone out there in the industry and they'll come up to me and say, "Hello!" and I remember their faces, but I had so many that I couldn't remember a lot of their names. Some of them I could, but there are a lot of them out there—a lot of students I had out there in the industry. Of course, in that area, a lot of them took poultry judging. Seems like the ones that took poultry judging were more interested in getting ahead, getting a little boost you might say, and the industry was interested in the students that had handled poultry and knew what products they produced. In judging, we didn't just handle the bird, we had the eggs and the meat and the different cuts and all that kind of thing, so they learned a lot about poultry.

TM: I'm sure the poultry industry changed a whole lot during your career. How's it changed since you took your first course at the university to what it is today?

DA: Well, I guess the main thing that I've noticed that really stood out is that we had many, many different poultry companies, and today [there are] just a few. They've all either been bought out by other people, other companies, or enlarged, or just gone out of business, but it's a big business today.

TM: What about the overall management of the birds themselves? The houses were much smaller in those days than they are today.

DA: Oh, yes. It started out in the 1930s with small buildings about 14 by 16 [feet] and just maybe 500 birds—maybe have two or three houses like that. At our home farm in Rogers, we had a couple of those houses and raised broilers. One of them was from [a] FFA [Future Farmers of America] project. They started from that and then they increased the size to about 5,000 and then 10,000 and it

wasn't too many years and they had 20,000. The number just kept going up per house, and the houses really did change. They were more modern, had more ventilation—of course, they needed to have [that] for the health of the birds. They had to have better ventilation, proper heating, cooling in the summer.

TM: Those early houses weren't necessarily total confinement either, were they? They turned the birds out during the day.

DA: That's right, we had little holes in the side of the house—the 14 by 16 [feet] buildings—and they could go in and out with a little pen out there that had a fence around about maybe, oh, about the same size of the building. They could go out there and put a few troughs out there and feed and water and they'd go out there in the days and go back and forth.

TM: I remember seeing those operations when I was younger, and there were some that didn't even have the fence. They simply turned them out.

DA: That's true. They could. Along that same order, my dad raised breeder stock—had a lot of leghorns—and we had this orchard next to the house. We had these broiler houses in that orchard, and in the spring we raised pullets in those houses. They would turn those out in the orchard and they would roost in the orchard—the apple trees. And in the fall when they were ready to go into the laying house, when they were getting ready to lay, we'd go out there at night and catch them out of trees and put them in the house.

TM: Did you ever work with turkeys?

DA: No, I never did work with turkeys.

TM: Thinking back to when we used to see a lot of turkeys out on the range that— today they're all total confinement, I suppose.

DA: No, we didn't raise turkeys at all. I had no connection to turkeys.

TM: Your research was predominantly with broilers, though, when you came back to Arkansas.

DA: Yes. A lot of it was with broilers for a while, and I kept at it until I retired, but I also worked with broiler breeders. The last few years before I retired, I worked with Campbell Soup Company. They were more interested in broiler breeders in their research farm over at Farmington. They would provide the birds and the feed. We had the house out at the university farm, and we would conduct the research and share the findings with Campbell's Soup. That was a good relationship.

TM: Tell us a little about how hybrid broilers came about. That was probably prior to your involvement in poultry breeding.

DA: Well, as I remember, when I first graduated from college, or even before that, the white Wyandotte was one of the main breeds. Then they went to the New Hampshire, which was a red bird. They crossed that with the red Cornish male. The red Cornish male crossed on these females made the broiler. The White Rock female came into prominence over the White Wyandotte. It had a little more fleshing. Then the New Hampshire and the White Rocks were crossed together to make a white bird. They wanted a white bird because of the pin feathers. The red pin feathers would show up in the processed bird, and they were hard to pick them out. It took more labor, and if you didn't get them all

out, the house wife didn't like that, so they started trying to get a white bird.

They gradually got the white Cornish male instead of the red Cornish male, and crossed that on the White Rock and New Hampshire to get a white bird.

TM: Now, with all these small poultry companies that were in existence at that time, they could not have all had their own breeding program. They must have used one or a few sources of genetics to get these hybrid birds. Is that accurate?

DA: Oh, yes. They had the breeders. They had Cobb, Arbor Acre, and Hubbard. They had these to provide the female side. For the male side, you had the Peterson. They had Ross and Hubbard. The breeders that had [the] male side did their own breeding, and the female side did their own breeding. Then they'd cross these together to get the hybrid broiler.

TM: Are there as many people in that business today as they used to be, or has this shrunk as well?

DA: It's shrunk tremendously. There are very few of those in existence today. And the ones that are there—some of them are just small. I think Cobb has taken the bigger market now. Arbor Acre used to be one of the biggest producers of stock. They've relinquished their lead to Cobb, and they have a lot of the market and then Ross—the breeder Ross males are still pretty strong. Peterson males are not as strong as they used to be, but it's getting smaller and smaller on the number of breeders.

TM: And will it probably continue to shrink. Or is it hard to say?

DA: I think there will be a few just like in Tyson—well, Tyson's a big one now.

Pilgrim is big in the broiler business now and—of course, that same thing is true

in the breeder stock. There are fewer, and the ones that are there are getting larger.

TM: I'm sure that it took a lot longer to produce a broiler when you started in the industry than it does today. How has that changed?

DA: Oh, it's changed tremendously. I know when I was raising broilers there on the farm when I was a teenager, it took sixteen or seventeen weeks to get about two and a half pounds. Today you can get seven or eight pounds in six or seven weeks.

TM: What's responsible for this? Genetics, management, or a combination of the two?

DA: Combination of both, but mainly selection. It's been easy to select because that's just been selecting the best bird, the biggest bird, the most fleshy bird, and using that one for their stock, and just every year doing that and it's gradually made a better bird. Grow a faster-growing bird, and not only faster but more flesh, more—of course, they're more interested in breast meat today, and they're concentrating on that now.

TM: Has this faster growth led to any problems, as far as the birds themselves?

DA: Yes, especially in the male side. Their legs can't hold them up. They haven't bred the legs with the faster growing birds, so they have had a lot of leg problems and also have a lot of leg problems in turkeys because those turkeys are getting too big for their legs. That was one of the biggest health things they had—problems.

TM: Do you think there's going to be an end to how fast these birds are going to grow, or are they going to continue?

DA: That's hard to say. Nobody thought it would go this far. There has to be a limit somewhere, but I don't know where it will be.

TM: How has the diet of broilers changed through the years? I'm sure that the feeds are somewhat different now than they were forty or fifty years ago.

DA: Yes, pretty much. They used to use different ingredients. I know from our farm as a teenager, we used a lot of wheat bran and wheat middlings. We'd mix our own feed and dump all this stuff on the floor, and all the ingredients, and then just take a shovel and mix it up like you're mixing concrete, and put it back in sacks and feed it. Then, of course, they got to where companies would make their own feed, then you just didn't have to make [it]. Then they started adding more vitamins and different things to the feed to make the bird grow better, and maybe add antibiotics to keep down diseases. That's one of the many controversies today is that some people don't like the birds being fed so much antibiotics.

TM: I bet you never saw a shirt made from a feed sack either, did you?

DA: Oh, yes. A lot of shirts were made from feed sacks. My mother made them when I was a kid—sure did, a lot of shirts.

TM: We're showing our age now.

DA: I guess. They'd make sacks especially for that. They'd make them colored. Make them for hand towels—colored hand towels and checker boards. You just name it; they had all kinds of patterns.

TM: Of course, when you were dealing with flocks of 1,000, it was a lot easier to deal with feed in a sack than it would be to do today. It's distinctly a bulk operation, I'm sure.

DA: Oh, yes. It really was. It was feasible back then, but not today, to mix their own feed and so forth.

TM: When the 5,000 bird house became more or less the standard, that's probably when bulk feed and automatic feeders and a lot of these things came into existence.

DA: Yes. When they got big houses, a lot of birds—they went to already-mixed feed and then, of course, they went to bulk feed. It wouldn't be sacked; they would just come out and dump it into your bin with the bulk truck, and from there go into your automatic feeders—saved a lot of labor.

TM: Do you see any major changes in the management of broilers in the foreseeable future? Obviously, there will be changes.

DA: Oh, yes, I'm sure there will be. What it will be just depends on the situation. What's happened in the past was for necessity, more or less—changed for necessity to accomplish a specific problem and solve it.

TM: How has the human dietary pattern changed? We eat a lot more poultry today than we did thirty, forty, fifty years ago.

DA: I guess that's true, because somebody has to eat them.

TM: And if you look at the products that are available, everybody has some kind of chicken-something in fast food restaurants, but many, many years ago, chicken was not on the menu at restaurants very much. They had fried chicken.

DA: No, the fast foods were all hamburgers when they started out and then they started adding in a little chicken and then some, like Chick-Fil-A, they're all chicken. They're growing more and more to breast meat because people want the white breast meat.

TM: So the emphasis is probably because of the fast food craze, you think?

DA: Well, partly that, but also more people just like white meat. I don't know why, but they just like it, and the thighs and legs—they're a little cheaper meat, and they're trying to find uses for those and trying to sell them, maybe, overseas—trying to develop more uses of the dark meat. Of course, chicken in general—one of the reasons why chicken has progressed to the extent it has is that they advocate it as a health food. [It doesn't have] much fat, and the fats that are there are better for you than some of the fats in the red meats.

TM: What are some of the other poultry products that you worked with? There doesn't seem to be quite the emphasis on things like emu and ostrich that we saw a few years ago. I know you used to see farms when you were driving around the country—you don't any more.

DA: Yes, I don't know too much about the ostrich and the emus, but there's a place for the emus. You know, they have the oil, the emus, that's high-priced. They use the emu oil for ointments to rub on you because it penetrates the skin so readily. They put that in pain medications. They're selling emu meat, too, to eat, but it's expensive. Use it occasionally, but it's expensive.

TM: That's probably the big advantage of chicken. Its meat is fairly inexpensive; at least people have that perception.

- DA: Yes, compared to other meats, I guess chicken is the least expensive to produce. They've advocated for years that this is a good meat for the poorer countries to produce because it is less expensive.
- TM: Primarily because poultry is so much more efficient on feed conversion, or what?
- DA: Yes, very efficient on feed conversion, growing fast, very efficient.
- TM: What kinds of conversion rates are they dealing with today?
- DA: Oh, less than two pounds of feed per pound of meat today, where it used to be much more than that.
- TM: Where beef would be at least twice that.
- DA: At least twice, probably. I'm not sure exactly, but it may be more.
- TM: And transportation is an interesting aspect of it as well. That's probably why we are seeing the boneless chicken breasts and these types of things rather than whole chickens.
- DA: Right. In the value-added products they are adding in the stores, the boxed products. They've got the frozen box of value-added product that you take home and put in the microwave and you have your dinner. Of course, that can also go to the beef and the pork, too. They can do the same thing.
- TM: They really haven't to the extent of chicken, have they?
- DA: Oh, no. Not near as much as poultry. No. They've got more of that effect with chickens than they have with the others.
- TM: Why do you suppose that is? Is it the innovation of the people in the business?

DA: I think these poultry companies like Tyson and Pilgrim and others have seen the need for it. They've produced this chicken and they've got—as they grow and raise more chicken, they need to have the people eat more. So rather than just sell the chicken out there where the house wife has to produce—has to cook to chicken in various ways—they can—they produce the chicken in these value-added products, and it's much easier for the house wife to cook them and have dinner. This helps the producer, like Tyson and Pilgrims and others, to sell the chicken that they have produced.

TM: Why do you suppose poultry industry wound up in Northwest Arkansas?

DA: Good question. I think it goes back to, well . . .

TM: Innovative people?

DA: Innovative people. John Tyson—Don Tyson's dad started their business. Don Tyson took it over, and now John, his son, is taking over that. But anyway, going back to the innovation of, the building of the poultry industry in Northwest Arkansas—Don Tyson's dad—how he started was trucking broilers to Kansas City and St. Louis, Chicago—live—live birds. He started raising them here in Northwest Arkansas and taking them to these various cities and it just started here. We had the land. The apple business was king for a number of years, and it was going out because we couldn't control the codling moth and so forth, and diseases of apples. The apples were going out of business, so that meant the farmers needed something to take their place. The broilers came in very handily, and it just grew and grew. I think it was just that small farms were

very well-adapted to raising broilers, and it just started from there and just burgeoned.

TM: But our climate isn't necessarily superior to a lot of places. We don't grow grain, didn't have transportation.

DA: No, I think it just started here and they used their land to the best advantage because they couldn't have grain operations like they have down on the plains. And it was more hilly, so they could raise broilers and have a house out here on an acre or two, whereas they couldn't grow a lot of grain. It just grew from that.

TM: And that's actually benefited the cattle industry in this part of the world, as well.

DA: That's right. That's right. Because where they used to raise one cow to an acre, now they can raise three or four. Fertilization from the litter from the broiler industry.

TM: Of course, that's a hot topic in Oklahoma right now.

DA: It is right now. They're accusing it of having phosphates in the water—in the runoff—and it's probably contributed. Other things contribute to it also. I know in some papers last night, these poultry companies are indicating—bringing in all these poultry growers and people from cities out in Oklahoma that are contributing sewage and so forth—that they're also contributing to the phosphates in the water. But I think everybody has to agree that it's being done, and they need to do something about it.

TM: Human population in Northwest Arkansas couldn't have anything at all to do with that either, of course.

DA: Oh, no. Northwest Arkansas is made from Tyson and other poultry companies—J.B. Hunt, Wal-Mart—in this area. They started in Bentonville. The main offices are still here—and started building Northwest Arkansas and it's just growing from there.

TM: [I] think that this rapid expansion of the population in this area may threaten the poultry industry. Do you think that's complementary?

DA: I don't think so because the population is more or less around these cities of Bentonville, Rogers, Springdale, and Fayetteville, and yet all this country around here—small towns and a lot of hilly country—and I don't think it'll have any effect on it. I think it'll still be here.

TM: Maybe a slight shift as to where the production houses are located.

DA: Yes, they'll be out in the country. Maybe farther out in the hilly sections but the predominant poultry population growth as I see it is in this area between Bentonville, Rogers, Springdale, and Fayetteville—it's like one big city where they used to be completely separated.

TM: There used to be some farm land between them, didn't there?

DA: Sure did. I can remember when I was in high school and in 4-H. The county agent would take me to Fayetteville for our project as a poultry judging team and he had a—I don't know what he drove, an older model car—but we drove for miles and miles, it seemed to me, to get from Rogers to Fayetteville, with all the winding roads. It was paved road, but it was just a winding road through the hills. You didn't see any cities or houses, just trees, and today it's just like one big city.

TM: And will be worse in the future, I suspect.

DA: I suppose.

TM: Well, thinking back on your career here, David, I'm going to ask you to be a little philosophical now. What would you consider to be your most significant contribution to the state, the university, and just the science itself?

DA: Well, one of the biggest contributions that I feel I've made in the past is all the students I've had and taught poultry [to], and not just poultry, but life in general, because in poultry judging you teach them about life and getting along with one another and doing a good job. I think that when I look back, one of the things that I'm proud of is all these students that I taught. They're out there doing a very good job in the industry and working for themselves, also.

TM: Many of them are leaders in the industry today?

DA: That's right, and their sons. I've had some of my earlier students, then their sons come through. You know you're getting ready to retire when their son's son comes through. That makes you look back, too, and see that they're making up the industry, and talking to them you feel proud that you've at least accomplished a little bit there.

TM: It's hard to measure those kinds of things, and that's probably the most meaningful thing we do at the university is the students that we produce.

DA: I think so. I think that's right.

TM: If you were a high school senior interested in agriculture, or just interested in attending the university, would you recommend the University of Arkansas?

DA: Sure would. It's a growing university and I think under Dr. [Chancellor John A.] White's leadership—I think it's really come a long way and I think you can get a good education here.

TM: There was a recent study that shows it was one of the best buys that you could get for your tuition dollar, as well.

DA: That's right. I think so, too. Tuition has been going up and up and up and, of course, it's been going up here some, but still your education does not cost you here as much as it does in a lot of universities.

TM: And if a person is interested in the poultry area, the University of Arkansas will rank quite highly as far as poultry education, would it not?

DA: Oh, yes. I think it's one of the top poultry curriculums. We built a new poultry building, one of the best in the nation, have a good faculty and I think the poultry division here is as good or better than any in the nation.

TM: Good advertisement for potential students.

DA: Yes. North Carolina is also a good poultry school, but I still think that predominantly Northwest Arkansas's growth in poultry and so forth with this new building and new faculty—I think that our poultry department is one of the best.

TM: Well, I appreciate your time this morning. Any last thoughts, any regrets, would you do it all again?

DA: No regrets. If I was going to do it, I'd do it all over again, I believe. I've had a lot of fun in the past. I've had a lot of good times teaching and teaching students and seeing them in the industry in later life, and it's been good.

TM: We appreciate your career and your time this morning.

DA: Thank you.

[End of Interview]

[Transcribed by Artesia Perry]

[Edited by Rebecca Willhite]