

## JAMES D. SMITH

*on his retirement*

**An appreciation  
by David Hole\***

James D. Smith has been known to students and colleagues simply as JD for as long as any of us can remember. JD was born on December 14, 1927 to Stuart N. and Ann Smith on a Paullina, Iowa farm. He began his scientific career under the tutelage of his father in the cornfield when he began pollinating

father was also mayor in Ames, Iowa, and the town showed its esteem for him by naming one of the city parks, the Stuart Smith Park, after him. JD graduated from Ames High in 1946 and played guard on the Central Iowa championship football team – a feat made more remarkable because he couldn't see



JAMES D. SMITH (JD)

corn for ten cents an hour at the age of 11. His father obtained his Ph.D. with Dr. E. W. Lindstrom in the Genetics Dept. at Iowa State College. Soon after, he became a breeder of sweet corn and owned a sweet corn firm which was later acquired by Asgrow. JD's

without his glasses, and the goggles he wore kept fogging up.

JD was mentored in his graduate work by Professors Peter Peterson and Joseph O'Mara at Iowa State College, later, Iowa State University. His Ph.D. thesis included a luteus mutant (chromosome 4) that originated in the Bikini-A-Bomb tests and was uncovered in the screening of this material by Dr. E. G. Anderson at the California Institute of Technology. His

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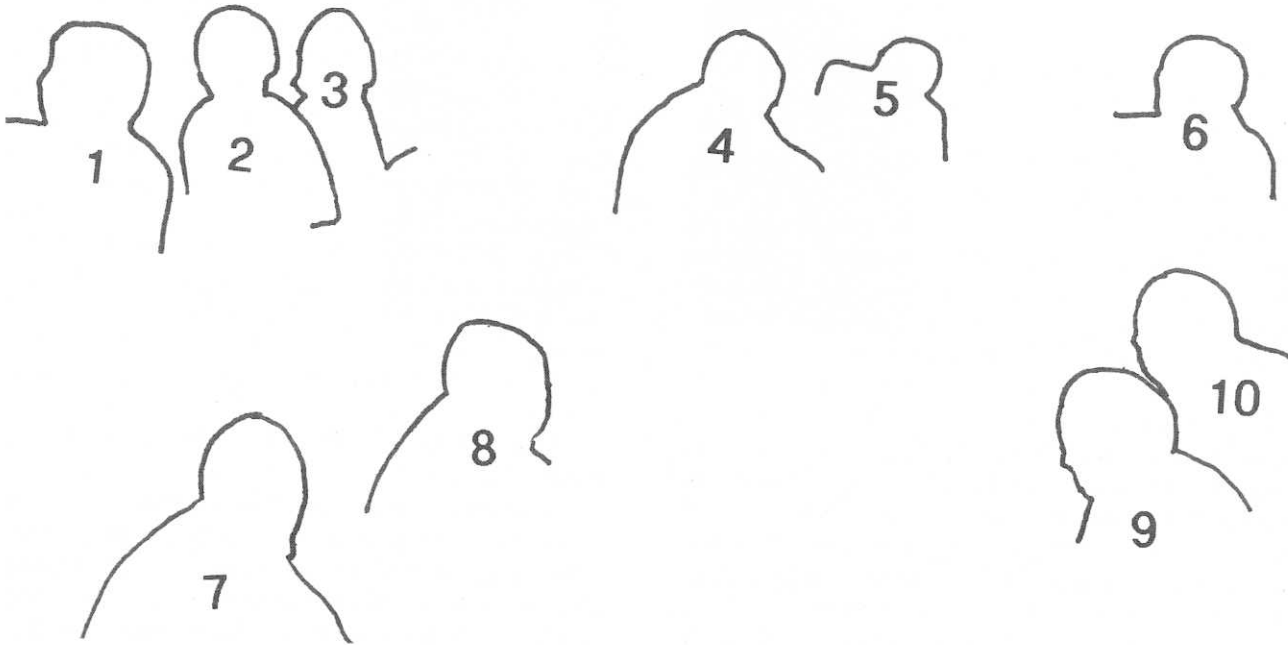
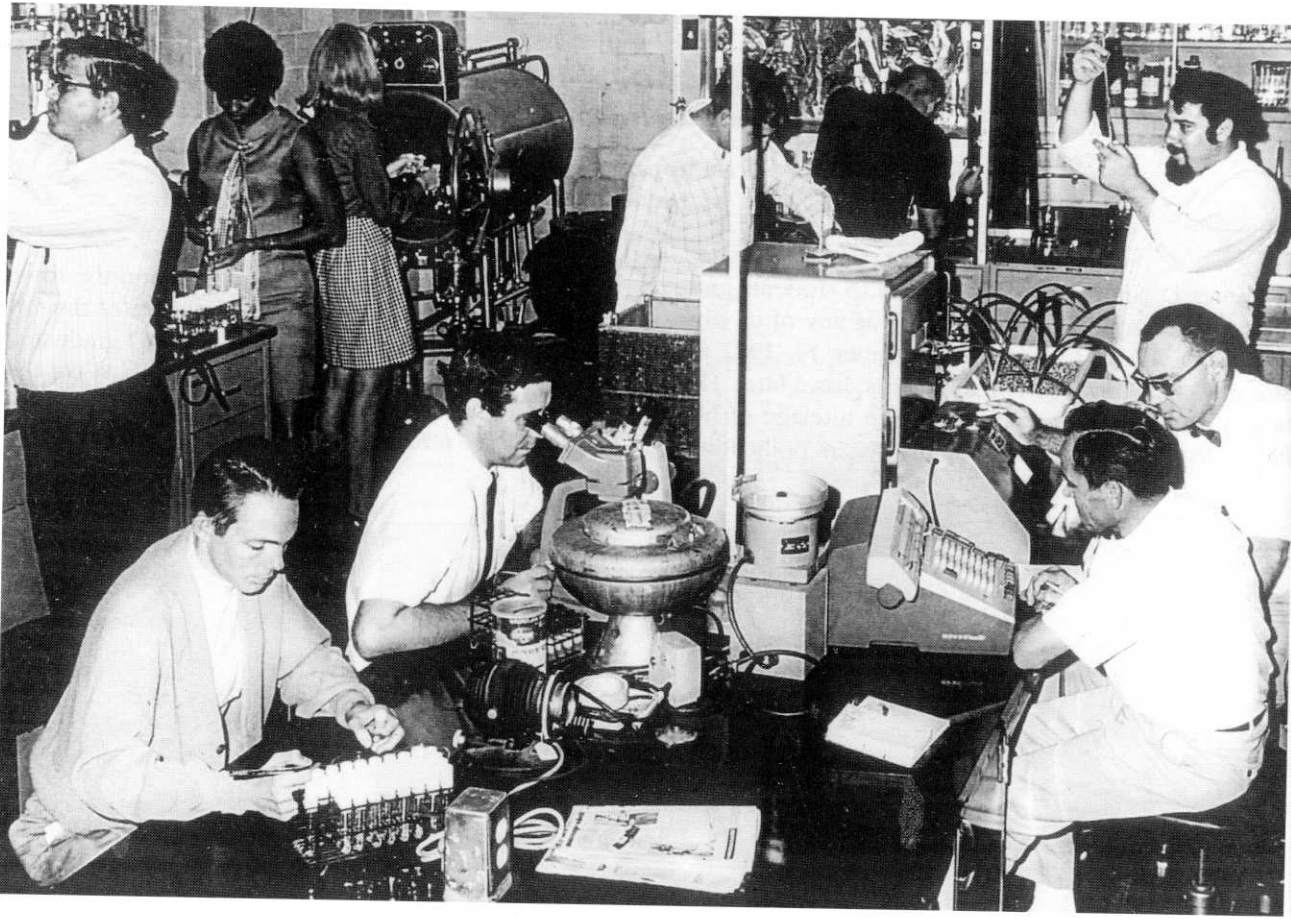


FIGURE 1 - JD's lab in the old animal industries building could get pretty crowded (circa 1969). Individuals are: 1. Jim Fuchs, 2. Lucille Young (Technician), 3. & 4. Student workers, 5. Clint Magill, 6. Rich Stockert, 7. John Womak, 8. Gerry O'Donovan, 9. Ted Rosario, 10. JD.



FIGURE 2 - JD pollinating in the mud.

studies were interrupted by the Korean War, and JD eventually separated from the U.S. Army with the rank of Captain.

He began his career at Texas A & M University in 1959. JD, in turn, has mentored over 65 graduate students at the M.S. and Ph.D. level. His masters and doctoral students have cast to the winds ending up as academicians, private plant breeders, attorneys, medical doctors, pharmacists and leaders of the plant biotech industries. The breadth of knowledge JD imparted to his students, from biochemical to statistical and quantitative genetics, is made apparent by the careers many have followed. While names such as Ann Blakey and Chris Carson remain familiar to those in the maize community, many have found other paths to success. Morgan Chiang, JD's first Ph.D. student, spent his career in Canada investigating quantitative traits in maize and cabbage.

James Fuchs is another case in point. Here was a young student that arrived at Texas A & M having experienced a severe drought on the family cotton and

sorghum farm in West-Central Texas. Becoming excited about genetics in his junior year, he sought out JD and continued there for both of his advanced degrees. Jim went on to several laboratories in Europe and finally to Minnesota where he has pursued bacterial regulation and genetics en route to becoming a molecular biologist in the Biochemistry Department at the University of Minnesota. In 1984, he co-authored a DNA techniques textbook. His brother Roy, a senior research scientist at Monsanto also in recombinant DNA work, was instrumental not only in increasing Bt toxin expression in transgenic cotton to effective levels, but also in clearing the path through EPA regulations for commercial release. These accomplishments from a drought-stricken farm in Texas through the mentoring of JD.

Even further afield are Dr. Richard Stockert, who works with glycoprotein receptors in the Marion Bes-sin Liver Research Center of the Albert Einstein College of Medicine, Dr. D-G Bai at Chonnam National University in Korea who is using the expertise he gained from studying the role of ABA in maize to examine the effects of hormones on reproduction in frogs and Dr. Bryan Bailey, who is a USDA-ARS pathologist in Beltsville, Maryland working on biocontrol of *Erythroxyllum coca*.

JD also served on hundreds of committees (at least 592). Although he was chronically late to committee meetings, he would occasionally show up a week early for a meeting. In a statistical sense, that averaged out all of his late arrivals. In the lab, we always kept the clock running a few minutes fast to try to keep him on time to committee meetings, but he would invariably get used to the increase and factor it in to his departure time so we would have to move it up a few minutes more. We believe that the clock was, in fact, running about two days ahead by 1996. He was still late for committee meetings. One of his colleagues has mentioned that for many of the students, on whose committee he served, he was more instrumental in their success than their major professor. One of these students, Dr. Helen Belefant-Miller recently wrote.

*As a graduate student at TAMU (Texas A & M University), I often played "hunt the professor". My major professor was not JD but I could sometimes run mine to the ground in JD's lab. Eventually I realized why my professor would be there - it was fun! JD, and a continually changing host of students, would be holding forth on sports, anthocyanins, history, corn varieties, farming, TAMU, noted scientists, and home improvements, in that order. Induc-*



FIGURE 3 - The pollinating nursery circa 1986. Left to right; David Hole, Greg Cobb, Clint Magill, JD.

ing and altering this flow were people coming in with questions on classes, statistics, computer programming, planting, carotenoid purification, and HPLC repair. JD was the keystone. By being of good humor, a curious mind, and gregarious nature, he provided all of us a pleasant place of interest and information.

Another of his students, Dr. Ann Blakey adds these comments:

Two fundamental concepts always come to mind when thinking about JD, these are; the value of history and the importance of integrity in scientific interactions. The value of the history of genetics, and in particular maize genetics, to the development of science was never omitted from discussions on any topic. Whether he was reminiscing about the Minnesota Mafia or the Wisconsin Gang of Five, the impact, the richness, the sheer diversity in the nature of maize genetics was always a key element of discussions with JD. The "Evening at JD's" seminars were the scene of many of these discourses. It is here that students would present information on topics chosen for the semester, and a historical development was always included. JD would often add anecdotes that would bring his students closer to the science as a realm of human interac-

tion that is all too often ignored in the lecture halls of today.

These human interactions bring up the second area that JD seemed to have a tremendous impact on his students. JD's openness, his sharing of time, knowledge, experience, research materials and ideas were all a part of the education of his students. JD lead by example in this field where science was an endeavor that involved the participation of many and not just the one. Integrity and respect were key elements in these interactions. Although some might fail, in their humanness, to reciprocate, JD's belief in the open sharing of ideas remained undaunted.

Time with JD was always time well spent. The stories he told breathed life into the science which we all came to know under his tutelage. He instilled his students with integrity, respect, humor, and a sharp eye for any place where he might have laid his glasses since his last cup of coffee.

While his children were young, JD had established a routine of going home at 5:00pm to spend time with them, returning to the lab after their bedtime, and frequently working in the lab until 2:00am. This routine continued long after his children were grown. Many of his colleagues and students would find this late night discussion time fruitful for hearing



FIGURE 4 - JD with two recent graduate students: Left; Kuan-Hung (Robert) Lin and Right; Byong-Moo Lee (who named his son "James" in honor of JD).

his theories of ABA biosynthesis and dormancy induction in maize and for bouncing their own ideas off him.

The other great draw in his lab was the coffee maker. It attracted geneticists like moths to a flame. Such sessions were frequently brainstorming sessions about whatever eclectic topic had arisen first. Graduate students in the lab learned more from these drop-in visitors and participating in these discussions that they catalyzed with JD than they ever learned in their courses. Jim Dunlap, one colleague that was influenced by JD early in his career recently wrote: *I can remember my first contact with Dr. J. D. Smith. It was a graduate course in genetics. JD went quickly through about ten different subjects and associated concepts within the 60 minutes allotted for the class. At the end of the class, JD was still expanding on the already vast array of ideas presented to this group of students. At that time, I*

*knew that JD was a person totally immersed in his intellectual pursuits of answers to biological questions. I was both fascinated and frustrated. JD had communicated the excitement of searching for hidden truths but I had failed to take even one note for the entire lecture. The rest of the semester was the closest I ever came to an academic race as I attempted to anticipate important issues and sort out the many possibilities that JD had presented. It was JD that initiated my interest and emotional involvement with maize. This was long before the "Field of Dreams" but certainly set the scene. JD was the mentor on a special project related to the regulation of precocious germination in maize. On the first day, he took me to the field and introduced his large "family" of maize genetic material. We looked at endosperm types and pericarp color until I was utterly confused. Over the next few months, JD worked daily with myself and his many other stu-*

*dent colleagues as we collected pollen and made crosses. It was an experience with a man and his crop that I will cherish the rest of my life. I still see JD once or twice a year. He is still able to deliver ideas faster than I can take notes. It is not often that people are able to nudge others in life-changing ways. JD is one of those exceptional people. He certainly has made an impact on my life that will always be special.*

JD's great belief in liberal causes coupled with frequently conservative graduate students often led to lively discussions of politics. While no one ever changed JD's mind, he succeeded in changing a few with his impassioned beliefs and his willingness to take unpopular stances when he believed in the cause. His passions for science and love of all things maize, were contagious to his students. The other source of many discussions was the crossing block. JD led a band of undergraduate and graduate students as well as other professors into the crossing block each day. As we split up to work our way through the various ranges, ideas seem to spring from the fertile Brazos bottom soil. Such discussions usually involved shouting back and forth between the various ranges of stocks. Slogging in the mud and dodging fire ants also took our concentration. Most of the students frequently wilted some in the Texas July heat, but JD, fortified with his thermos of coffee, always seemed somehow comfortable. The most anticipated event each year was the corn party, held at JD's house after nearly all of the crossing was done, but before the Kandy Korn, Mainliner, and Silver Queen border rows got too old.

For a number of years, a colloquium was also

held at his home one evening a week during the semester. Graduate students, and other professors took turns giving seminars about a mutually agreed upon topic. One year it was particularly enjoyable as JD's wife, Edna, was serving as editor of a cookbook and was testing every recipe in the book, using the colloquium participants as an eager testing population. Edna and JD also frequently had a large menagerie of animals around the house. Cats ruled the roost, but a pet raccoon and other assorted animals were also around. JD did a number of backcrosses trying to separate coat color and eye color genes in cats but gave up after a large number of backcrosses failed to produce a blue-eyed black cat. During those years, graduate students were required to adopt kittens in addition to other incidentals, such as passing their prelims prior to graduation.

JD's research on ABA biosynthesis was pioneering. Utilizing various mutant stocks in a genetic dissection, he elucidated the biochemical pathway that is now accepted as the most likely source of ABA in maize. Along the way his research interests turned to dormancy induction and the flavanoid pathways.

JD allowed his students free reign and did his best to support their research whether it dealt with ABA biosynthesis, or genes for resistance to southern rust. As long as his students were interested in maize genetics, he always encouraged their explorations. While his critique of research interpretations was intense, and manuscripts frequently came back from his office dripping red, there was a pervasive feeling that he respected the students' efforts even as he sought to sharpen our mental processes.