College engineers disease-resistant soybeans

TREY BRAUNECKER  Daily Egyptian

The university has developed a new type of soybean that will have a natural resistance to one of the most devastating diseases affecting soybean production in the Midwest.

The new variety of soybean, codenamed Saluki 4313, has built-in resistance to soybean cyst nematode. Soybean cyst nematode is a plant parasitic nematode, which attacks the roots of soybeans and can result in the suppression of shoot growth, root necrosis and a significant loss in seed yield. Stella Kantartzi, assistant professor of plant, soil and agricultural systems, said the new variety of soybean should be able to fight off SCN and assist farmers in the production of soybeans in the Midwest.

Kantartzi said she has been working with the university to engineer a foundation seed, which will help develop soybean seeds with resistance to SCN in the next two years.

"SCN causes nearly $1 billion in soybean crop losses almost every year," she said. "With a disease like SCN, which affects such a large portion of one of America's leading cash crops, finding a cure could potentially save many of the crops for years to come."

Bryan Young, professor of plant, soil and agricultural systems, said soybeans are one of Illinois' most prominent cash crops right behind corn.

"They are the second largest crop produced in our state in terms of bushels produced, as well as acres of production," he said. "This year alone, Illinois has produced somewhere between eight or nine million acres of soybeans, so it is important to Midwestern agriculture."

Brian Klubek, department chair of the plant, soil and agricultural systems department, said the proteins in soybeans are used in the production of many different food items, such as livestock feed for hogs and chickens.

"It is a very good protein source for raising animals and the oil can be used for various things, like proteins found in tofu and protein bars," he said. "It is also the number one edible oil people find in grocery stores. When something says it has vegetable oil in it, it is most likely soybean oil."

Young said soybeans do not see much use in southern Illinois because of the lack of hog and chicken livestock when compared to the rest of America, but Illinois' geography makes it easier to grow and harvest soybeans during the fall.

Klubek said other than SCN, some of the difficulties that come with growing soybeans are weed infestations and sudden death syndrome. He said it is important that farmers are wary of weed infestations, rainfall and diseases if they want to increase their production of soybeans.

He said soybean production depends on a few key factors, such as where the crop is located, weather, climate and moisture availability. Young said many diseases, such as SCN, often affect the growth production of soybeans so researchers always look for new ways to address these issues.

He said different types of soybeans that are bred to resist disease, such as Saluki 4313, are brought up by the university to resist many of the diseases that plague soybeans. The university has done more work on SCN, SDS, plant pathology and breeding than some other institutions to try and develop a possible cure for the problems that plague soybean production.

"SCN and disease are real issues that the university and farmers need to address, including utilities and student support and our own two percent salary increase," Matt Daray said.

Cheng said the university has generated a fair amount of money from grants and awards, which brings the university's budget up to $52 million. She said some of the money the university received came from almost $5 million from 43 awards this May, a $1 million grant for adoption and foster care training and a two- and a half year federal grant for research on hearing loss.

Freshmen enrollment reports also show an increase in the number of probable enrolled freshmen in the fall semester, Cheng said.

"Our freshmen enrollment, as of Monday, is 190 students larger than the same time a year ago," she said. "That's a ten percent growth."

Cheng said staff members are doing everything they can to keep interested in staying enrolled. She said the projected increase in enrollment comes from data such as increased housing numbers around the university and larger numbers of students attending orientations.

There has also been a small increase in the number of masters and doctoral students at the university, she said.

Provost John Nicklow said there are 14,200 applications to the university at this time, which is a vast improvement from last year at this time.

"Our goal right now, and it's a realistic goal, is to bring in the largest freshman class SU has ever seen," he said.

Nicklow said while transfers are low, the university is trying to make up for that with new students. He said the university is now focused on the fall semester and sent out our 1.2 million pieces of search materials to prospective students.

Nicklow also said the university is working on a new summer financial aid package for next year that will resemble the distance education model. He said this means classes will be open based on the demand of credit hour orientations.

Cheng also announced that the Student Services Building is on schedule and will be opened September 27, in time for parent's weekend. She said the construction is on track at the moment. The senate also discussed the future of the university's technological infrastructure.

David Crane, assistant provost and chief information officer, said the university started far behind other universities in becoming technology-friendly, but is working to be a leader in offering up-to-date equipment for students and staff.

"I've been on the job for about 15 months now and when I started April 1, 2012, we were admittingly more behind our peers in information technology," he said.

Crane said the university was almost ten years behind the amount of technology other state universities provide. He said in order to provide higher quality computers and internet access, work is being done to save money on technology such as using grants, private donations and re-negotiating cheaper technology contracts with companies such as Apple.

Some of the costs for the university's technology upgrades include $350,000 for a high-availability data center outside campus and a disaster recovery site, $1.1 million in fiber replacement or addition to increase data network speed and $2 million for expanded wireless across campus, Crane said.

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About Us

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A 2-year-old girl who was implanted with a windpipe grown from her own stem cells has died, three months after she became the youngest person to receive the experimental treatment.

Hannah Warren died Saturday at Children's Hospital of Illinois in Peoria, hospital spokeswoman Shelli Dankoff said. Dr. Rick Pearl, one of three surgeons involved in the operation, told The Associated Press that Hannah died of lung complications following a second surgery, but that the new windpipe "worked very well" until the end.

Her family asked for privacy, but expressed their sorrow in a fundraising blog updated Sunday: "She is a pioneer in stem-cell technology and her impact will reach all corners of our beautiful Earth. Her new trachea was performing well, but her lungs went from fairly good, to weak, to poor."

Hannah's treatment was part of an ongoing scientific effort to develop lab-grown tissues and organs. Similar methods have been used to grow bladders, urethras and last year a girl in Sweden got a lab-made vein using her own stem cells and a cadaver vein.

In Hannah's case, the stem cells came from her bone marrow. They were seeded in a lab onto a plastic scaffold, where it took a few days for them to multiply and create a new windpipe, which was implanted April 9.

Hannah was born in South Korea and traveled to Illinois for the surgery. A pediatric surgeon in Peoria had met Hannah's family while on a business trip to South Korea and helped connect them with Dr. Paolo Macchiarini, an Italian surgeon based in Sweden who pioneered the technique.

Hannah's parents, Darryl Warren and Lee Young-mi, had read about Macchiarini's success using stem-cell based tracheas, but they couldn't afford to pay for the operation at his center in Stockholm. Dr. Mark Holterman, the Illinois doctor, helped the family arrange to have the procedure at his hospital with Macchiarini leading the surgical team. Children's Hospital waived the cost.

The hospital is part of OSF Saint Francis Medical Center, a Roman Catholic system that considers the operation part of its mission to provide charity care and a way to champion a type of stem-cell therapy that doesn't involve human embryos, the surgeons said in April.

The Catholic church opposes using stem cells derived from human embryos in research or treatment. Hannah had lived in a Seoul hospital all her short life before flying to the U.S. and her lungs weren't strong, said Pearl, who is surgeon-in-chief at Children's Hospital. She required a second surgery June 11 for a leak in her esophagus. Lung complications followed.

The girl's family and her caregivers believe the knowledge gained from her surgery will benefit other patients.

"We learned the trachea transplant worked. That's very important and nobody should lose sight of that," Pearl said.

Hannah would have been 3 years old on Aug. 22.

"We will forever miss her infectious personality and miraculous strength and spirit," her family wrote on their blog.
Illinois enacts nation's final concealed-gun law

JOHN O’CONNOR
Associated Press

SPRINGFIELD — Illinois became the last state in the nation to allow public possession of concealed guns as lawmakers rushed Tuesday to finalize a proposal ahead of a federal court's deadline.

Both houses of the General Assembly voted to override changes Gov. Pat Quinn made to the bill they approved more than a month ago. Some lawmakers expressed fear that failure to pass something would mean virtually unregulated weapons in Chicago, which has endured severe gun violence in recent months.

The Senate voted 41-17 in favor of the override Tuesday afternoon after the House voted 77-31, margins that met the three-fifths threshold needed to set aside the amendatory veto. Quinn had used his veto authority to suggest changes such as prohibiting guns in restaurants that serve alcohol and limiting gun-toting citizens to one firearm at a time.

Quinn had predicted a "showdown in Springfield" after a week of Chicago appearances to drum up support for the changes he made in the amendatory veto. But lawmakers had little appetite for fiddling any further with the legislation on the deadline day the 7th U.S. Circuit Court of Appeals had set for ending what it said was an unconstitutional ban on carrying concealed weapons. Without action, the previous gun law would be invalidated and none would take its place.

"If we do not vote to override today, at 12:01 a.m., tomorrow, July 10, there are no restrictions upon people who want to carry handguns in the public way," said Sen. Kwame Raoul, a Chicago Democrat who negotiated the legislation with House sponsors. As a nod to Quinn, who faces a tough re-election campaign in 2014 and has already drawn a stiff primary challenge from former White House chief of staff Bill Daley, Senate President John Cullerton floated legislation that addressed the governor's worries. But the Senate ultimately approved a follow-up bill that only mentioned two of his suggestions.

The House rejected the plan later Tuesday, including Cullerton's proposal to remove a requirement that gun-free zones specifically mentioned in the law.

Legislators also approved a bill that allows gun owners to adopt concealed carry. So gun activists took the issue to court and the 7th Circuit ruled the Second Amendment permits citizens to take guns out of their homes. The court's original June 9 deadline was extended by a month when lawmakers didn't send Quinn the plan until early that month.

"If we do not vote to override today, at 12:01 a.m., tomorrow, July 10, there are no restrictions upon people who want to carry handguns in the public way.

— Kwame Raoul
senator, D-Chicago

Chicago to get more wind-farm electricity

TAMMY WEBBER
Associated Press

CHICAGO — Illinois wind farms now supply 5 percent of the electricity used by Chicago residents and small businesses who participate in a new aggregation program, Mayor Rahm Emanuel's office said Tuesday, lauding what environmentalists say could serve as a model for other communities.

Hundreds of Illinois cities and towns have adopted aggregation, which allows them to bundle residential and small business customers to buy cheaper electricity in bulk from smaller suppliers. Chicago last year chose Integrys Energy Services to supply electricity to customers in an effort to save money and to ease pollution by eliminating coal-based power.

The other 95 percent of electricity supplied by Integrys comes from natural gas.

Commonwealth Edison still is responsible for delivering electricity and fixing outages, although customers can opt out of aggregation and get their power from ComEd or another supplier. Chicago officials said more than 750,000 residential and business customers have saved almost $21 million since the program took effect in February.

An Illinois Institute of Technology study released Tuesday concluded that by turning away from coal-fired power, Chicago has reduced its carbon emissions by 16 percent and its emissions of gases that contribute to acid rain and ozone depletion by 98 percent.

"By supporting Illinois wind farms and eliminating coal from the city's portfolio, Chicagoans will build a cleaner, healthier environment for our children," Emanuel said in a written statement.

Sierra Club Illinois Director Jack Darin said he knows of no other Illinois city that has a coal-free aggregation deal, but he hopes others follow Chicago's lead.

"Chicago has shown a new path forward away from coal and toward new energy," he said, adding that central Illinois cities could use a similar approach to obtain local wind-energy sources. He said that, over time, he hopes communities move away from all fossil fuels, including natural gas, "but we're moving there one step at a time."

"It's a great innovation that I hope can be imitated and improved upon," Darin said of Chicago's program.

Chicago officials said it was important that the city buy power from within the state and that they will consider increasing the wind power supply when the current Integrys contract ends next June. The city has an option to extend the contract through May 2015.

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— Tammy Webber
Chicago Tribune

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All the interest around the league is flattering. Matt Garza just isn’t sure what to make of it. He realizes the Chicago Cubs could trade him at any moment. And performances like this will make him that much more attractive to contenders.

Garza pitched seven strong innings, Alfonso Soriano homered and scored four runs, and the Cubs pulled away late to beat the White Sox 8-2 on Monday night. Dave Sappelt had a career-high four hits, while Soriano had three along with two steals. Luis Valbuena drove in three runs, hitting the tiebreaking two-run double and scoring during a five-run eighth.

Garza (5-1), meanwhile, came through with another terrific outing at a time when interest in him is high. “At least you’re wanted,” he said. “It could be the other way. If it happens, my phone will ring and that will be it. But it hasn’t rung.”

For now, management’s phones are ringing. General manager Jed Hoyer acknowledged that earlier in the day, saying Garza “a guy we’ve gotten a lot of phone calls on” and has “opened a lot of eyes of late.” Garza, who has an expiring contract, said he’s discussed a new deal with the Cubs and isn’t ruling it out, no matter how slim the odds appear to be. He said the possibility is “as real as the trade.”

“It’s always a possibility, 50-50,” he added. He’s 4-0 in his last five starts after allowing two runs — one earned — and five hits, striking out six without a walk. He’s lowered his ERA from 4.98 to 3.22 during this stretch, while his trade value has remained high.

He gave up a solo drive in the third to Josh Phegley, who hit his first career homer against Tampa Bay’s David Price on Sunday. “That made him the quickest White Sox rookie to homer in consecutive games since Magglio Ordonez went deep in his second and third games in 1997.”

“Other than that, (Garza) was outstanding,” manager Dale Sveum said. “I think he’d probably tell you he didn’t have the great fastball command, but he did have the velocity.”

So far, Soriano gave the Cubs a 2-1 lead when he knocked a high pitch to the seats in left leading off the sixth, after lightning flashed and thunder cracked. The home run was his 13th on the season and ninth in 10 games. It was also the 385th of his career, putting him in sole possession of 59th place on baseball’s all-time list ahead of former White Sox All-Star Harold Baines. But the White Sox immediately tied it, thanks to some shaky defense by the Cubs.

Second baseman Darwin Barney threw wildly to first on an infield single by Gordon Beckham with one out, allowing the runner to advance to second, and a single by Alex Rios put men on the corners. With two outs, catcher Dioner Navarro bounced a throw to second that Barney could not handle on a double steal, allowing Beckham to score the tying run.

ANDREW SELIGMAN
AP Sports Writer
Athletes placed on award watch list

TYLER DIXON
Daily Egyptian

The Salukis have taken two more spots on the College Football Performance Awards watch list for the upcoming season.

Junior tight end Mycole Pruitt, senior punter Austin Pucylowski and senior linebacker Bryan Presume were chosen for the College Football Performance Awards watch list. According to the website, the CFPA uses scientific research to determine which players will increase effectiveness for their teams. Some elite players have been chosen as award winners such as Monte Talk and Von Miller, now members of the Denver Broncos.

Pruitt, a mechanical engineering major from St. Louis, was also named to the Sports Networks Football Championship Subdivision Preseason All-American Second Team last week. The FCS is one level below the Football Bowl Subdivision, which is the highest level of collegiate football.

This is also the second time Pruitt was selected to the CFPA tight end award watch list. He was also a CFPA tight end performer of the week once and named an honorable mention four times last season.

Last season, Pruitt led the Saluki receivers with 49 receptions and four touchdowns. He also had 577 receiving yards, the fourth most in the country among tight ends. At 250 pounds, Pruitt's size is difficult for many defenders to match up with, enabling him to bully players that try to defend him. Pruitt said he likes that his offense can exploit a defense because of his size and he hopes they can continue to do that.

"Whether it's a corner, a safety or a linebacker, I'm a match up problem for any position," Pruitt said.

After starting as a red-shirt freshman, Pruitt has become successful during his time as a Saluki. He began to collect awards in his very next season, getting honorable mention on the Missouri Valley Football Conference All-Conference Team, placing on the MVC All-Newcomer Team and being voted team receiver MVP by his teammates. Pruitt said it feels good that his team has his back and knows they can rely on him.

"They know that I'm a guy that they can count on," Pruitt said.

Presume, a sports administration major from Kennesaw, Ga., led the Saluki defense with 78 tackles last season, 28 of them solo tackles. He had a career high of 11 tackles against North Dakota State University. In a game against the University of Northern Iowa, Presume set a school record with a 100-yard fumble recovery for a touchdown and was chosen as the FCS Linebacker Performer of the Week by the CFPA for that game.

Assistant head coach and defensive coordinator Bobba Schweigert works closely with Presume on defense, but also works with Pruitt and Pucylowski. Schweigert said his players can always get better and it's about getting them ready to perform the best they can. Individual recognition is also great for the program and the team, he said.

"We keep challenging our guys to get better and better each year," Schweigert said.

Pucylowski, a biological sciences major from New Berlin, Wis., is making his first appearance on the CFPA watch list. He was named an honorable mention on the MVFC team last season and was selected to the College Sports Journal FCS All-Academic Team.

Pucylowski had 71 punts last season, the second most in the Missouri Valley Football Conference. Those 71 punts put him at 2,855 punting yards for the season, the ninth most in the university's history. Presume was also ranked 28th nationally with a net punting average of 36.7 yards.

"Though the university has given him a chance at success, Pucylowski almost decided to play at another university," Schweigert said.

Pucylowski said when he was deciding on where to continue his football career, it came down to campus visits. After visiting SIU and Illinois State University, he made his decision based on playing time, he said. Since receiving awards has been normal for Pucylowski during his time as a Saluki, that decision seems to have paid off.

In January, he was named to the Football Championship Subdivision Athletic Directors Association Academic All-Star Team. The 121 schools in the FCS were able to nominate no more than two student-athletes. Only 54 student-athletes in the country are awarded this honor.

Even though the watch list is an individual honor, Pucylowski said he thinks other special teams players should get more credit since success is a team effort. He said many players on the punt team and offensive linemen don't get as much recognition compared to the abundance of recognition other players receive.

"It wasn't just me who got the award, it was everyone," Pucylowski said. "It was everyone.

Senior punter Austin Pucylowski kicks off to Northern Iowa University Oct. 13 during the Salukis' 34-31 homecoming victory at SIU Arena. Pucylowski, who ranked second in the Missouri Valley Conference during the 2012 season with 71 punts, was chosen for the College Football Performance Awards watch list.

Junior tight end Mycole Pruitt runs past Southeastern Missouri State University defense Sept. 15 at SIU Arena. Pruitt, along with two other Salukis, were chosen for the College Football Performance Awards watch list. Pruitt ranked fourth in the nation among tight ends during the 2012 season with 577 receiving yards.