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Sino-German Agricultural Centre (DCZ) 中德农业中心



Sino-German Agricultural and Food Update 中德农业与食品通讯



No. 12 August – October 2020



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Sino-German Agricultural Centre
Room 724-27, Zhong Ou Hotel,
55 Nongzhan Beilu, Chaoyang District,
100125 Beijing, PR China
Info-dcz@iagleipzig.de
www.dcz-china.org

中德农业中心
北京市朝阳区农展北路 55 号中欧宾馆
724-27 室（麦子店街，近盛福大厦）
邮编：100125
Info-dcz@iagleipzig.de
www.dcz-china.org

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Sino-German Agricultural and Food Update

中德农业与食品通讯

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In this issue

Foreword

Cover Story: Save the Date!

- The 6th Sino-German Agricultural Week, 30 November to 3 December 2020

Good to Know

- *Politics and Law*: Key areas of 14th Five-Year Plan for agriculture indicated; Xi Jinping calls for avoiding food waste; Opinion on promoting quality development in livestock industry; New bio-security law
- *ASF and Beyond*: China bans pork imports from Germany after ASF cases; China's pig industry recovering
- *COVID-19 Impacts*: Corona kills the thirst for beer
- *Environment and Health*: Food security concerns after typhoons flatten China's northeastern corn belt; China's crayfish boom threatens food security; One year after the outbreak brucellosis still sickens thousands in Lanzhou City
- *Science*: First ever gene edited pig resistant to three diseases

DCZ Activities

- Kick-off workshop for virtual study tour on smart agriculture
- Online workshop Sino-German cooperation in agricultural sciences

Activities of Other Bilateral Cooperation Projects

- DCZ/FECC participation in the 6th Field Day of DCALDP
- Recent activities of the Sino-German Animal Breeding and Husbandry Project
- Visit to Shanghai Ecoland Club Farm and a Demeter certified farm in Nanjing

DCZ Publications

Reviews of Publications

Upcoming Events 2020-21

Imprint

Sino-German Agricultural and Food Update

Foreword

Dear partners and friends of the Sino-German Agricultural Centre,

Instead of the usual topical cover story you will find in this newsletter a “Save the Date” announcement for the 6th Sino-German Agricultural Week with brief introductions to the different events of this flagship event of our cooperation platform.

Looking back, it is hard to believe that one year has passed already since our last Agricultural Week in 2019 with the panel sessions on “Climate Change and Agriculture” and “Rural Land Management System” – and with so many participants from China, Germany and representatives of other countries. This surely will be different this year. Although we all have witnessed this year how important direct person-to-person communication is and how much any cooperation benefits from the presence of the stakeholders, we hope to reach an even wider audience in China and internationally by organizing the Agricultural Week as an “hybrid event” with on-site and online presentations and participation. In any case we cordially invite you and are looking forward to your participation in whichever way possible.

As previously, besides reports on activities of our cooperation platform and from the other bilateral Sino-German projects in agriculture, this newsletter provides again important news on developments in agriculture like the “key areas of 14th Five-Year Plan for agriculture” or the “new bio-security law”.

We also would like to direct your attention on some publications by the DCZ like a study on the seed market in China, an analysis of the impact of corona virus on Chinese agriculture or the analysis of German expert promoting instruments – all of which can be downloaded from our website <https://dcz-china.org/en/dcz-publications.html>, just like previous editions of our newsletter.

I hope each of you finds something of interest for yourself in this new edition of our newsletter and wish you a safe, healthy, and cheerful time.

With best wishes



Dr. Jürgen Ritter
Managing Director
Sino-German Agricultural Centre (DCZ)

Sino-German Agricultural and Food Update

Cover Story: Save the Date!

Save the date! 6th Sino-German Agricultural Week from 30 November to 3 December 2020

From end of November to early December the Sino-German Agricultural Centre will organize the 6th Sino-German Agricultural Week. In recent years, DCZ's flagship event has attracted an increasing number of participants and high-ranking speakers like the former MARA Vice Minister and now FAO Director General Qu Dongyu, Vice Minister Zhang Taolin and the German Parliamentary Secretary Hans-Joachim Fuchtel.

Due to international travel limitations caused by the ongoing COVID-19 pandemic this year's conference will be organized as a hybrid event of on-site conference and online webinar. The on-site conference will be held in the Swan Lake View Hotel 北京中建雁栖湖景酒店 at Yanqi Lake, Huairou District in Beijing. For participants who will not be able to attend in Beijing it will be possible to attend the conference via online streaming. Hence, we are expecting an even larger audience and higher dissemination of the conference's messages.

This year the Agricultural Week will feature following events:

- **Modern Farm Management**

The Agribusiness Conference usually is held in the middle of the year. As this was not possible in 2020, we are glad that the Agricultural Week provides us with a platform. The first day of the Agricultural Week is dedicated to the topic of "Modern Farm Management". Contributions on family farms and cooperatives will be part of this session as well as specific presentations on Farm Management Information Systems and time and project management in modern agriculture. A panel discussion with Chinese and German practitioners and decision-makers will discuss the question of how modern farm management can contribute to the modernization of agriculture and rural revitalisation in general. This event is organised in cooperation with the Sino-German Crop Production and Agrotechnology Demonstration Park (DCALDP) in Huanghai, Jiangsu Province.

Events of the Sino-German Agricultural Centre	
30 Nov.	Agribusiness Conference on "Modern Farm Management"
1 Dec.	Sino-German Agricultural Policy Dialogue on "Smart Agriculture"
2 Dec.	"Open Day" of the Sino-German Agricultural Week: "Sino-German Agricultural Cooperation in the Changing Environments"
3 Dec.	Conference on "Food Security and Nutrition" (starts at 15.30pm, Beijing time)

Events of the Sino-German Project for the Development of Animal Husbandry and Animal Breeding	
1 Dec.	Symposium on Pig Breeding (starts at 14.00pm, Beijing time)
3 Dec.	Symposium on Cattle Breeding and Artificial Insemination (AI) (starts at 13.30pm, Beijing time)

Sino-German Agricultural and Food Update

- **Smart Agriculture**

Smart Agriculture is the main topic of the Agricultural Policy Dialogue in 2020 (see also the Cover Story in our Newsletter no. 11 on “Development of Smart Agriculture in China”). A planned study visit by Chinese experts and officials to Germany and France could not be organized – for obvious reasons. Nevertheless, the subject could be addressed by other means, including a virtual study visit and a website dedicated to Smart Agriculture both of which will be introduced in this session of the Sino-German Agricultural Week.

On-site and online presentations of German and Chinese experts will highlight various aspects of Smart Agriculture and a panel discussion will approach the topic under the heading of “Mutual learning in Smart Agriculture”, and hence, putting it in the general context of Sino-German cooperation in agriculture.

- **Open Day**

High-level participation by the German and the Chinese Ministries of Agriculture online and at the venue is expected on the Open Day of the Agricultural Week which traditionally is dedicated to the wider subject of Sino-German cooperation in agriculture. In this special year of 2020 we look at cooperation in “Changing Environments” and the manifold challenges of this time, including summary reports on the Sino-German Agricultural Policy Dialogue, and presentations of other Sino-German bilateral cooperation projects as the Sino-German Crop Production and Agricultural Technology Demonstration Park, the Project on Animal Breeding and Husbandry in China & Modern Husbandry, and the Sino-German Exchange Program for Young Experts in the Agricultural Sector. In a panel discussion, representatives from politics, business and sciences will further elaborate what it means to cooperate in challenging times of changing environments.

- **Food Security and Nutrition**

In view of the upcoming 2021 UN Summit on Food Systems, the S&T platform of the Sino-German Agricultural Centre will organize its annual science conference in cooperation with the Academy of Agricultural Sciences (CAAS) on Dec. 3, 2020 on the topic of “Food Security and Nutrition”. Outstanding Chinese and German scholars will present recent scientific findings about the transformation of food systems and changing diets and their assessment of what is needed to achieve the SDGs by 2030. This year the event seeks to provide insights from China, Germany and international organizations into how to mitigate impacts of present challenges such as COVID-19 as well as environmental and climate change impacts on food security and nutrition through international cooperation and smart technologies. They will further discuss strategies how malnutrition and hunger can be defeated (SDG2), how changing food systems and diets can contribute to climate protection (SDG 13) and help to promote sustainable consumption (SDG 12).

For this year’s conference distinguished scholars such as

LI Xiande, senior scientist at the Institute of Agricultural Economics and Development of CAAS and member of the UN High-level Task Force on Global Food and Nutrition Security

Matin Qaim, University of Göttingen, professor for International Food Economics and Rural Development, Lead Expert Group Global Panel on Agriculture and Food Systems for nutrition

Hans R. Herren, World Food Prize recipient 1995 and CEO of Millennium Institute

have confirmed to give keynotes.

For more information and registration please contact info-dcz@iakleipzig.de

Sino-German Agricultural and Food Update

- **Sino-German Symposiums on Cattle and Pig Breeding**

The Sino-German Cooperation Project on Animal Breeding and Husbandry will hold two project events during the 6th Sino-German Agricultural Week. Both events are planned as joint activities of the National Animal Husbandry Service (NAHS) and ADT Project Consulting GmbH (ADT) and will take place on December 1st and 3rd.



The Sino-German Symposium on Pig Breeding will be held as an online event on December 1st from 2:00 PM to 6:00 PM. The event focuses on the rebuilding of the pig population in China after the impact of the African Swine Fever (ASF). Chinese and German experts will demonstrate opportunities and mechanisms to repopulate pig breeding farms and to establish effective on-farm breeding schemes. Furthermore, the health management in breeding farms will be presented and best practices from Chinese and German breeding farms will be shown.



The Sino-German Symposium on Cattle Breeding and Artificial Insemination (AI) will be held on December 3rd from 1:30 PM to 6:00 PM in Beijing as a hybrid event with online participation. The Symposium targets the breeding strategies for dairy and dual-purpose breeds currently applied in China and Germany. A second session is related to the organisation and management of AI stations. Special emphasis will be given to the hygiene and quality assurance of semen production, storage and distribution. A third session is related to the cooperation on Brown

Swiss breeding of Xinjiang/ China with Allgäu/ Germany with contributions on the organisation and management of the breeding work in both countries. Presentations on data capture in demonstration farms and the output of the project work under COVID-19 conditions will complete the programme of the cattle symposium.

Further information on both symposiums can be obtained from ADT's project office in Beijing. Participation is granted on invitation of the Sino-German project. Please contact Ms. Yang Xiaomin (adtbeijingyang@163.com) for further details.

Good to Know

Politics and Law

Key Areas of 14th Five-Year Plan for Agriculture Indicated

At a press conference on 27 October, MARA Vice Minister Liu Huanxin, underlined the key directions in the upcoming 14th Five-Year Plan for agriculture and rural development, including modern agricultural facilities, high-quality farmland, modern seed industry, cold chain logistics, digitalization in rural areas and animal and plant disease prevention and control. According to Liu, China will stick to its Rural Revitalization Strategy (2021-2025) during the period of the 14th Five-Year Plan.

Liu further highlighted the achievements of the present 13th Five-Year Plan:

- Expansion of high-quality farmland: by the end of the 13th Five-Year Plan approximately 54 million hectares of high-standard farmland have been constructed, campaigns to protect and improve soil fertility were successful. Average farmland soil quality scored 4.76, with an improvement of 0.35 compared to the 2014 level.

Sino-German Agricultural and Food Update

The construction of water saving irrigation facilities have been accelerated.

- High-quality seed production: Three national seed and cultivation centers have been established in Hainan, Gansu and Sichuan province. The National Crop Genebank of China, which will be able to store 1.5 million germplasm resources, is under construction and will rank first in the world in terms of conservation abilities. At present, already 95 percent of farmland area is cultivated with domestically produced seeds.
- Agriculture mechanization development: mechanization rate in plowing, planting, and harvesting reached over 70 percent, whereas the mechanization rate in animal husbandry and aquaculture has reached 34 and 30 percent, respectively.
- Farm upscaling in animal husbandry and aquaculture sectors: 64.5 percent of livestock and poultry farming is carried out on a large scale. 93 percent of farms are equipped with manure disposal systems. 64 percent of dairy farming is carried out on a large scale.

Source: http://english.scio.gov.cn/pressroom/2020-10/29/content_76857569_4.htm

Xi Jinping Calls for Avoiding Food Waste as Food Security Concerns Linger

In August President Xi Jinping has called to stop wasting food, amid growing concerns about food security. In summer this year disastrous floods affected China's major rice production areas, at the same time the ongoing COVID-19 pandemic affects food supply chains all over the world. Therefore, Chinese policy maker hope that curbing food waste can help to ensure food security and help to cope with decline in imports. While during the first weeks the "clean plate" campaign

was focusing on waste from the table, the central government now opened a new front. A statement released on September 14, ahead of the harvesting season, the National Food and Strategic Reserves Administration highlighted the problems of wasted grain and soybeans during harvest, transportation and storage.

Opinion on Promoting Quality Development in Livestock Industry

On September 27, the State Council released the "Opinion on Promoting Quality Development of the Livestock Industry". The decree addresses the existing problems of the sector along with rising demand for meat such as environmental degradation, rising consumer prices after diseases such as ASF and avian influenza and growing reliance on imports. The opinion calls for the development of a modern livestock industry, an upgrade of disease prevention and control, the development of a modern processing and distribution system and the acceleration of the "green circular development" (namely the utilization of animal manure as organic fertilizer). Questionable and contradictory to earlier environmental programs is the decree's recommendation to eliminate "irrational barriers" for livestock farms' access to land by easing up restrictions on cropland and encouraging livestock farms to locate on land designated for forests. The decree further sets self-sufficiency targets of 95 percent for pork, 85 percent for beef and mutton, 70 percent for dairy and full-self-sufficiency for poultry. It further aims for self-reliance in fodder productions and calls for finding substitutes for corn and soybeans in feed.

Source: Dimsums.blogspot: Oct. 8, 2020, for original text in Chinese go to: http://www.gov.cn/zhengce/content/2020-09/27/content_5547612.htm

New Bio-security Law

The National People's Congress Standing Committee voted to adopt the law on biosecurity on 17 October 2020. It will come into effect on 15 April 2021. The law has been proposed in the wake of the COVID-19 outbreak to strengthen biosecurity in the country. The law consists of 10 chapters. Along with the "Environmental Protection Law", the "Agriculture Law", the "Wild Animal Protection Law", the "Regulations on Entry and Exit Animal and Plant Quarantine" and the "Regulation on Agricultural GMO's Safety", the law complements China's efforts for biosecurity. With regards to agriculture, chapter three of the law provides further regulations on import and export of animals and plants and improvements in early warning and reporting for potential outbreaks and bio-risks in agriculture, especially for livestock.

Sources:

<http://www.npc.gov.cn/npc/c30834/202010/bb3bee5122854893a69acf4005a66059.shtml>

<https://www.reuters.com/article/uk-china-parliament-biosecurity/china-passes-biosecurity-law-to-prevent-infectious-diseases-idUKKBN27305S>

ASF and Beyond

China Bans Pork Imports from Germany after First ASF Case

On 10 September 2020, the German government confirmed that a first ASF case, a deceased wild boar had been detected in the state of Brandenburg near the Polish border. By mid of October local authorities confirmed at least 69 ASF cases, including the detection of a herd of 30 mostly sick and already dead wild boars on the island Küstrin-Kietz. So far the virus has been confirmed in the three border districts Oder-Spree, Oder-Neisse, and

Märkisch-Oderland. This news has the potential of a disaster for Germany's pig farming industry which exports to many countries in the world including China. China along with South Korea, Japan and Argentina reacted immediately and on Saturday, 12 September, banned pork imports from Germany. Until that day, Germany had been China's third largest supplier, about 14% of China's pork imports had been imported from Germany, with an annual worth about 1 billion Euro. In the first half year of 2020, Germany had already exported 400,000 tons of pig meat to China. Germany mainly exported pig ears, tails and feet to China, which are hardly eaten in Europe. Shortly after the ASF news was out, pork prices were dropping in Germany, slaughter weight pig prices fell by 13.6%. Meanwhile the German Federal Ministry of Food and Agriculture started negotiations with the Chinese ministry trying to waive the national import ban and to acknowledge instead the concept of regionalization, which would mean that only pork with origin from the state Brandenburg had to be included in the import ban. The German ministry tried to convince their Chinese counterparts that German pig farms have a high biosecurity status and therefore the risk of infection is low.

Pig Industry Recovering

Meanwhile, the COVID-19 pandemic in China seems to be under control and consumption of pork is on the rise again. At a press conference at the end of October, MARA's chief economist Wei Baigang disclosed that during the first 3 quarters of 2020 12,500 new large-scale pig farm have been built and 13,400 empty pig farms have been re-stocked. According to Wei, end of September China's pig herd accounted for 370 million or 84 percent of the 2017 level.

Despite these efforts, there is still a gap in domestic pork supply. To cope with soaring prices and reliance on imports, MARA and the Ministry for Land and Resources have released a set of policies to support the pig industry and have announced aggressive plans to increase production. The Ministry of Land and Resources recently released a contested policy that allows animal farming industries to appropriate land without approval process. According to media reports, mid of August 2020 300 herders of Inner Mongolian Durbed Banner took the streets to protest against planned pig farming development in the region. They displayed banners reading “No pig farming on Grasslands, no destruction of the natural environment”.

The National Development and Reform Commission is encouraging foreign investment into livestock breeding as well as into plant-based meat substitutes. Meanwhile, Chinese investors also invest in pig farms abroad. According to *Chinadialogue*, Argentina hopes by end of November to finalise an agreement with China to build 25 industrial “pork plants”, by this doubling the Argentinian pork exports to China to 900,000 tons per year. Currently, Argentina already has 10 industrial pig farms that exclusively produce for China. While the Argentinian government expects the creation of 50,000 jobs and US\$ 2.5 million revenues in exports, local NGOs fear that the purely export oriented project that will increase the stock of animals by 10 million heads and the additional production of two million tons of corn and 750,000 tons of soy-bean will come with high environmental costs.

Sources:

http://english.scio.gov.cn/pressroom/2020-10/29/content_76857569_4.htm

<https://chinadialogue.net/en/business/chinese-pork-investment-sparks-criticism-in-argentina/>

COVID-19 Impacts

Corona Kills the Thirst for Beer

Due to the COVID-19 pandemic, German authorities decided to cancel famous Munich October festival this year, whereas the Chinese city of Qingdao, home to the renown Tsingtao brewery, held a beer festival with hundred thousands of visitors in August. Foreign correspondents had been invited to observe the event which was also celebrated as a indication that China had managed to beat the pandemic and mass events such as a beer festival can be organized again.

However, like in Europe, China’s brewery industry has suffered severely from the pandemic. According to the National Bureau of the Statistics in the first half of 2020 the famous Tsingtao Brewery sold 25 percent less than in the previous years, Yanjing beer, another premium brewery even reported a 42 percent decrease in sales. According to German Trade and Invest (GTAI) there is also a shrinking demand for imported beer. While imports of German brands shrank by 18 percent in the first half of 2020, the Mexican beer brand with the now infamous name “Corona” suffered from a 60 percent decrease.

Environment and Health

Food Security Concerns after Typhoons Flatten China’s Northeastern Corn Belt

Shortly before the harvest season large areas of China’s northeastern corn belt have been affected by floods and wind damage after the typhoons Maysak and Haishen made landfall in early September. According to media reports, the losses are huge. As South China Morning Post reported, in Heilongjiang, China’s largest corn-growing province, accounting for 15 percent of China’s corn

production, over hundreds of kilometers fields have been flattened by the storms. In many regions the damages made harvesting by machines impossible, but farmers could not find nor afford to employ additional workers to harvest by hand. Therefore, some corn could not be picked. It is estimated that Heilongjiang and Jilin provinces' corn output might have dropped by 20 percent. The disaster already had an impact on corn prices, which are the highest in five years. Meanwhile, China's corn imports are surging and it is expected that China will import more than 9 million tons of corn from the US alone.

Source:

<https://scmp.com/economy/china-economy/article/3102714/chinas-northeastern-corn-belt-left-flattened-typhoons>

<https://scmp.com/economy/chinaeconomy/article/3102809/chinas-corn-growing-heartland-heilongjianggrapples-shortage>

China's Crayfish Boom Threatens Food Security

A report from South China Morning Post looks into China's booming crayfish farming. Within 15 years the production of crayfish – also labeled as 'little lobsters' – grew by 30 times from 1.6 million tons in 2003 to 369 million tons in 2018. Crayfish aquaculture is normally combined with rice farming, and many farmers gave up dryland farming for winter crops for the more lucrative crayfish business. The report mentions the half of the today's more than 600,000 ha rice-crayfish fields in the mid-stream Yangzi River area traditionally had been used for winter crops. (SCMP)

One Year after the Outbreak Brucellosis Still Sickens Thousands in Lanzhou City

In Update No. 9 (January-March 2020) we reported about an outbreak of brucellosis at the Lanzhou Veterinary Institute of the Chinese Academy of Agricultural Sciences, which affected more about 200 employees of the institute. Brucellosis is a contagious disease of animals that also affects humans also known as Bang's disease and in human's as Undulant Fever. Later Chinese media reported that the cause for the outbreak were emissions from the nearby Lanzhou Biopharmaceutical Plant owned by China Animal Husbandry, a factory that produces vaccines for animal-borne diseases. According to the magazine Caixin, several people in the Yanchangbao neighborhood in Lanzhou city near the plant started showing symptoms such as low fever and joint pain from September 2019 on. By 26 December 2019 it was confirmed that they had been exposed to the Brucella bacterium. According to a report by the Lanzhou Health Commission, which has been only released in September 2020, by February 2020 about 3225 people in the vicinity of the factory had contracted the disease and an additional 1401 people had been tested positive. As Caixin reporters learnt at a recent visit, a number of residents in Yanchangbao neighborhood are still suffering from symptoms one year after the outbreak. According to Caixin, a relatively modest compensation of 7.571 RMB (about 1000 EURO) has been offered by the factory to the more than 3000 victims of the potentially lifelong disease, but many of them are reluctant to accept the proposal which would prohibit them from taking any further actions against the factory.

Source:

<https://www.caixinglobal.com/2020-09-14/cover-story-the-ongoing-brucellosis-mystery-in-lanzhou-101604924.html>

Sino-German Agricultural and Food Update

Science

First Ever Gene Edited Pig Resistant to Three Diseases

Researchers from the Institute of Animal Sciences of CAAS have developed the world's first breeding material to make pigs resistant to three major infectious diseases. The gene editing technology co-developed by the Institute of Animal Sciences, and Chinese and Canadian universities can prevent pigs from being infected with the porcine reproductive and respiratory syndrome, also known as "blue ear disease", the porcine transmissible gastroenteritis and the porcine delta coronavirus.

More: <https://www.globaltimes.cn/content/1201535.shtml>

DCZ Activities

Kick-Off Workshop for Virtual Study Tour on Smart Agriculture

Smart Agriculture is this year's key topic in the DCZ Agricultural Policy Dialogue. Originally, a study visit on this subject to Germany and France was planned, but due to the COVID-19 pandemic a physical study visit had to be cancelled. Instead a virtual tour on the topic smart agriculture is being implemented.

In preparation of this virtual study visit on smart agriculture the DCZ organized an online Kick-off Workshop on August 5, 2020. This was preceded by the elaboration of a concept paper and internal communication of the management team and external experts. The Kick-off workshop, therefore, served the purposes to introduce the planned activities to the main stakeholders at the two ministries, the German Ministry of

Food and Agriculture (BMEL) and the Chinese Ministry of Agriculture and Rural Affairs (MARA), to discuss further details and receive feedback for the next steps.

After a short introduction by the two managing directors of the DCZ, Mr. Tang Zhishao and Dr. Jürgen Ritter, representatives of BMEL and MARA addressed the 29 participants of this online workshop. Dr. Steffen Beerbaum, Head of the BMEL Division on Application of Digitalization in Agriculture, presented the situation of smart agriculture in Germany, and emphasized the objectives to make agriculture more sustainable and efficient in light of the challenges related to population growth, limited resources and economic considerations. An example of the BMEL's efforts in the promotion and research conducted in this field are the 14 trial fields established by the ministry to demonstrate available technologies and research on advantages and disadvantages from an environmental and economic point of view. This field work is coordinated in cooperation with universities and companies.

Mr. Wang Bin, Deputy Director-General of the Department of Policy and Reform in MARA, outlined the situation on the Chinese side and stressed the significance of the development of smart agriculture for the Chinese government as seen in various policy documents, e.g. the "Rural Development Plan for Digital Agriculture" of December 2019. Smart



Sino-German Agricultural and Food Update



agriculture contributes to the wider objectives of rural revitalization, modernization of agriculture and promotion of green development. Also, it is a means to address labor shortage and to improve rural governance.

In his presentation titled “Digitalization empowers China’s agriculture development” Prof. Wu Wenbin of the Chinese Academy of Agricultural Sciences (CAAS) further elaborated on the status and the future of digitalization of China’s agriculture. This was followed by a presentation of Dr. Martin Schneider on “The Status of Smart Agriculture – Concept for a Virtual Study Tour” in which he outlined and detailed the plan for this activity with the aim to conduct relevant interviews at different levels of decision-making as well as incorporating experiences by practitioners. A website dedicated to the topic of “Smart Agriculture” will be developed and then provides access to these video-recorded interviews as

well as to presentations and other relevant outputs.

Mr. He Jianhua of the Bureau of Agriculture and Rural Affairs of Suzhou presented the efforts and achievements of Suzhou City regarding smart agriculture. With an area of 75,000 mu of IoT application, different pilot areas for various smart agriculture technologies, E-commerce and a B2B virtual platform for farm products Suzhou is at the forefront of the development in digitalization of agriculture.

Besides the high-level participation of BMEL and MARA, also the Agricultural Counsellor at the French Embassy in Beijing, Mr. François Blanc, as well as Mr. Arnaud Joulin of the DRAAF Grand Est Mission Agro-Ecologie et Innovation, attended this meeting and will provide valuable contributions to the DCZ virtual study visit on smart agriculture.



Sino-German Agricultural and Food Update

Online Workshop Sino-German Cooperation in Agricultural Sciences

On 13 August 2020 the DCZ S&T organized a workshop for research coordinators of German research institutes affiliated to the German Ministry for Food and Agriculture (BMEL), Leibniz Institutes and departments for agriculture sciences of German universities and universities of applied sciences. The purpose of the meeting was to present the results of a baseline study on Sino-German cooperation in agricultural sciences which had been conducted by DCZ consultant Dr. Rita Merkle and exchange about the study's recommendations for the DCZ S&T platform. The workshop was attended by 21 participants representing institutes and related institutions such as the Federal Office for Agriculture and Food (BLE), the German Academic Exchange Service (DAAD), GFA as well as DCZ. After DCZ science advisor Dr. Eva Sternfeld introduced to the workshop the DCZ recent activities in the field of agricultural sciences, a welcome speech was delivered by Dr. Maja Clausen from BMEL Division Research and Innovation. After these remarks, DCZ consultant Dr. Rita Merkle presented the main findings of the baseline study which has been conducted in February and March 2020. In all, 21 German institutions participated in

the survey, which is to our knowledge the first comprehensive inventory of ongoing German-Chinese bilateral cooperation projects in agricultural sciences. According to the quantitative survey, 122 ongoing cooperation projects have been identified so far. In addition, Dr. Merkle also summarized the outcomes of the qualitative survey. Respondents see great opportunities in the cooperation with China such as the unique diversity of China's natural environment and agricultural cultivation systems, which are hard to find in Germany, as well as the opportunity to work with highly-qualified Chinese researchers. Nevertheless, also challenges in the bilateral collaboration have been mentioned such as lack of financing and problems with data sharing. The respondents of the survey have also been asked for recommendations on how the DCZ's S&T platform could help to enhance future cooperation. The respondents provided an impressive list of ideas, which focus on the S&T platform's role as information and networking platform.

Dr. Merkle's presentation was followed by a vivid discussion and exchange on future perspectives of collaboration. Dr. Strowa from DAAD scholarship programme for Asia Pacific informed about a planned PHD exchange programme in agricultural sciences.

Empfehlungen für die S&T-Plattform

13. August 2020

Online WS - Chinesisch-deutsche Zusammenarbeit in den Agrarwissenschaften

2. Förderung der Rolle der S&T-Plattform als Networking-Plattform

- ◆ Vermittlung von relevanten chinesischen AnsprechpartnerInnen zum gezielten Knüpfen von Kontakten
- ◆ Ausbau der Rolle der S&T-Plattform als Vermittler zwischen Wissenschaft und Politik
- ◆ Als Netzwerk-Hub dienen und gemeinsame deutsch-chinesische Events und den ExpertInnenaustausch unterstützen oder mitorganisieren
- ◆ Den ExpertInnenaustausch zwischen deutschen Forschenden, die mit chinesischen PartnerInnen kooperieren, unterstützen

13

Sino-German Agricultural and Food Update

Participation in the ‘Protein Paradoxes’-Workshop by ZALF

In response to the DCZ study on the value chain of soybeans in China and Germany, the DCZ authors were invited to participate in the fifth ‘Protein Paradoxes’ Workshop, organized by the Leibniz Centre for Agricultural Landscape Research (ZALF).

The workshop was part of the ZALF research project ‘Protein Paradoxes’ on future sustainable protein supply under current challenges of climate change, a growing world population and changing consumption patterns. The event was attended by participants from various research institutions from Germany and other parts of Europe. In fact, due to the COVID-19 situation the workshop was organised as both a physical as well as an online event with about as many participants online as on-site in Berlin. Day 1 started with an introduction to the workshop by the project organisers, Prof. Bellingrath-Kimura, Dr. Mouratiadou and Dr. Reckling. It was continued by several presentations on the importance of legumes, such as pea, faba bean,

lupin and soybean, in agricultural systems and human diets and on the methodology of the research framework which was applied in the project. Day 2 consisted of a group exercise with the aim to develop a scenario on future legume systems based on the Shared Socio-economic Pathways (SSPs) as developed by Mitter et al. (2020). The groups worked on specific aspects of the legume system, such as production, consumption or global markets. Finally, the five scenarios which were developed by each group within their specific topic – (1) agriculture on sustainable paths, (2) agriculture on established paths, (3) agriculture on separated paths, (4) agriculture on unequal paths and 85) agriculture on high-tech paths – were presented and discussed. The outcomes were also documented and will be incorporated in phase 2 of the protein paradoxes project at ZALF.

*Protein Paradoxes on-site participants
(Source: Jan Fleischer, ZALF)*



Sino-German Agricultural and Food Update



Visit to Shanghai Ecoland Club Farm and Demeter Certified Qinbang Jipin Farm in Nanjing

On October 24 and 25, DCZ science advisor Eva Sternfeld visited the Ecoland Club Farm (ECF 乐田农场) in Shanghai, Fengxian District, to discuss the prospects for implementing a “climate field” environmental education project at ECF with Dr. Pan Tao. Dr. Pan Tao, a professional environmental planner has founded ECF in 2010 as the first Chinese “Schrebergarten” membership farm with a total area of 8.5 ha. Over the years, ECF has grown to 200 members, who rent small plots for gardening, and furthermore enjoy the fact that the farm also provides some common land for agriculture production and public activities. At ECF Pan Tao and his team organize a Nature School Programme and promote international exchange on urban agriculture.

For more information about ECF and Dr. Pan’s philosophy please also read his cover story “China Rural Revitalisation - Challenges and Solution” in our DCZ newsletter No. 6, May 2019. For more information please see ECF’s website: www.ecolandclub.com or follow them on Wechat

Between August and October 2020 Dr. Pan Tao had been assigned by DCZ as a short term expert to develop in close cooperation with the German Global Field (Weltacker)



ECF – Dr. Pan Tao at his garden (Source: E. Sternfeld, DCZ)

team a manual for educational activities related to the impact of food production and consumption on the climate. ECF has already reserved a plot of 2000 sqm for implementing the first Chinese Global Field next year.

During her visit Eva Sternfeld had the opportunity to observe a rice harvesting for kids at ECF and to give a lecture for parents presenting the DCZ and the development of organic agriculture in Germany.



Field reserved for 2000 sqm climate field (Source: Kosima Liu)

Sino-German Agricultural and Food Update



educational farm will be developed on the premises of a former warehouse. Since recent regulations do not permit the construction of wooden cabins on agriculture land, for this project Pan Tao has developed different strategies such as refurbishing caravans and develop programs for company team retreats.

乐田社区 | 分享嘉宾 
Eva Sternfeld 博士
中德农业中心高级别专家
柏林工业大学中国中心原主任



德国 有机农业 & 教育体系
2020第7期社区活动
10月24日周六
下午3:00-4:30pm
奉贤区大学公路999号乐田家庭农场

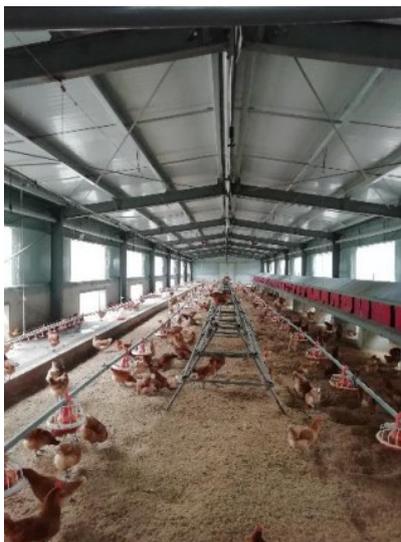


On October 25, Pan Tao showed us a new urban-rural agriculture project in Haiwan Township, Fengxian District, Shanghai. This

Sino-German Agricultural and Food Update

On October 26, Dr. Pan Tao accompanied us on the way back to Beijing to a certified Demeter farm in Nanjing, Luhe district. The farm Qinbang Jipin, which is known for its organic chicken and eggs, has over the years also developed a nature education base for children.

CEO Mr. Qin Jun has good memories of his visit to Germany on the occasion of the 2017 GFFA when he was member of a delegation with Minister Han Changfu and had the opportunity to visit organic farms near Berlin.



Demeter certificate, Rudolf Steiner, chicken and preparations room (Source: E.Sternfeld, DCZ)

Sino-German Agricultural and Food Update



Participation in Farmers' Seminar on Agricultural Products Safety and Sustainable Development of Ecological Agriculture

On October 29, Eva Sternfeld participated in a seminar for peach farmers in Pinggu District in Beijing's north east, at the invitation of the Beijing Yichen Fruit and Vegetable Production and Marketing Cooperative. Topic of the event was the improvement of agricultural product safety by introducing quality standards and competitiveness of ecologically produced fruits. The seminar was attended by about 80 farmers. After an introduction by Ms. Zhang Shuqin, the general manager of the cooperative, and speeches by representatives of the Pinggu District agricultural bureau, several experts from science and enterprises were invited to share their insights with the farmers. Eva Sternfeld introduced

the DCZ and reported about experiences from Germany with developing consumers' demand for safe und trustworthy food.

Participation in Hainan Free Trade Port Seeds Industry Development Forum

At the invitation of the China National Seed Trade Association Dr. Jürgen Ritter, German Managing Director of the Sino-German Agricultural Centre, participated in the "Hainan Free Trade Port Seeds Industry Development Forum" on 30 October in Sanya. At this occasion he introduced the fields of activities of the Sino-German Agricultural Centre, in particular the cooperation activities in the seeds sector with German partners of the Federal Plant Variety Office and the German Plant Breeders' Association.



Source: Kosima Liu, Yichen Fruit and Vegetable Cooperative

Sino-German Agricultural and Food Update



This high-level event, a gathering of academicians and decision-makers, was opened by the Vice Governor of Hainan Province, Mr. Liu Pingzhi, and provided in-depth analyses and perspectives of the role of the seed industry for the “Free Trade Port Hainan”. In June 2020, the Central Committee and the State Council had jointly released the Masterplan for this Free Trade Zone, which laid out a series of special policies for Hainan. One of the aims is to build up a so-called “Nanfan Silicon Valley”, where Nanfan (南繁) stands for “Breeding in the South”. This refers to the method of breeding and selecting breeding materials for summer crops such as rice, corn and cotton, harvested locally in autumn, and then taken to the subtropical or tropical regions of the South in winter. In this way, two to three generations can be bred a year, the breeding process is accelerated, the breeding period is shortened, the disease resistance of breeding materials and their response to moisture and light can be identified, and the competitiveness can be improved. Every year, thousands of scientific and technical personnel from more than 700 agricultural

research institutions in 29 provinces and regions come to Hainan to engage in “breeding in the south”. As a “Free Trade Port” Hainan province strives to explore new opportunities for international exchange and cooperation in Hainan also in the seed sector.

Activities of Other Bilateral Cooperation Projects

DCZ/FECC Participation in the 6th Field Day of the Sino-German Crop Production and Agrotechnology Park

Dr. Aihemaitjiang Rouzi from DCZ, along with Mr. Hu Yan’an, deputy director general of FECC at MARA, and Ms Zhang Xian, project manager of DCZ at FECC, traveled to Binhai county, Jiangsu province to attend 6th field day by Sino-German Crop Production and Agrotechnology Demonstration Park (DCALDP). The event included a pre-field day opening conference on October 21 and a

Sino-German Agricultural and Food Update



A.Rouzi, Hu Yanan and Zhang Xian (Source: A. Rouzi, DCZ)

field day excursion on October 22. Due to Covid-19, many German partners were unable to travel and contributed to the event by video statements. The event was live streamed on DCALDP Wechat account.

On the opening conference, Mr. He Zairui, the general director of DCALDP, and Ms Zhang Li, the representative of DLG (German Agricultural society) in Beijing, made opening remarks in which they affirmed contribution of DCALDP in promoting Sino-German agricultural cooperation. Mr. Hu Zhaohui, head of SKAID, and Mr. Shen Yi, Vice Agriculture Minister of Jiangsu Province also made congratulatory remarks. From the German side, Mr. Bruno Hoffstadt, head of Department of International Projects at German Ministry of Agriculture (BMEL), made a video statement to express that he regrets that he could not be there in person due to COVID-19, but he appreciates the DCALPD work in Sino-German agricultural cooperation and wished partnership to blossom.

Then Mr. He Zairui introduced the work of DCALDP over the years and what could be expected on the field next day. He also stressed that the attendance of Minister Julia Klöckner in 2019 was a great milestone in recognition of their work. In his presentation, he outlined what they have achieved in the



Speech by Mr Hoffstadt, BMEL (Source: A. Rouzi, DCZ)

last five years. The demonstration plot was established in 2015 with an area of 166 hectares of farmland in Binhai county, Jiangsu province, to test the integration of German and Chinese approaches to agriculture and to utilize most advanced German agricultural machinery and agricultural practices to promote sustainable agriculture. After that, Mr. Alejandro Figueroa, who is the German team leader of DCALDP, introduced the “Green Book”, a brochure written by him on his experience at DCALDP and on general sustainable agriculture management practices via video live stream.



Remarks by T.Giese, German Embassy (Source: A. Rouzi, DCZ)

Sino-German Agricultural and Food Update

On the field day, all participants traveled to the DCALPD fields to see a series of presentations about various agricultural machinery and agricultural practices. On site, Mr. Thomas Giese from economic affairs division of the German Embassy in China, made congratulatory remarks and praised the DCALPD's positive impact on Sino-German agriculture exchanges.

After that, Mr. He Yanping and various other practitioners introduced how different tilling, fertilizing, harvesting and management practices are applied to rice production on these fields. This has been done in consultation with German experts and by using advanced agriculture machinery from Germany. On the field also, representatives from BASF, BAYER, CLAAS, DEUTZ FAHR, HORSCH, LEMKEN, MÜTHING, PÖTTINGER and RAUCH, all of whom partly sponsored this project and event, explained how their specific product or machines are contributing to the success of DCALPD and live demonstrated the how these machines work in real conditions. (A. Rouzi)

Recent Activities of the Sino-German Project on Animal Breeding and Husbandry in China

Sino-German Animal Breeding Project participates in the EuroTier China

All over the world trade fairs have been cancelled or postponed since the COVID-19 pandemic occurs. It was therefore a great pleasure that the organizers, the DLG International and the National Animal Husbandry Service (NAHS), were able to host the EuroTier China in Chengdu. As originally planned, the exhibition EuroTier China was held at the Century City New International Convention and Exhibition Center in Chengdu from 7 to 9 September 2020.



EuroTier China in Chengdu (Source: ADT)

The “Sino-German Project on Animal Breeding and Husbandry in China”, represented by the implementing partner ADT Project Consulting GmbH from Germany participated at the German Pavillon next to the project partners Qingdao Medalchina Co., Ltd (Defi Woldegk, German Farm Consulting, Menno Chemie Vertrieb, Caisley International), BAUER Group (FAN Separator), Masterrind and Besamungsverein Neustadt a.d. Aisch (BVN).

Due to the worldwide travel restrictions the fair was smaller with less participation of international visitors. Nevertheless, in two halls, 183 exhibitors from 13 different countries participated in the event. International exhibitors came from Germany, Austria, Israel, Indonesia, Norway, Netherlands, Canada, Japan, England, Belgium, Denmark and Italy.

The travel restrictions did not allow the two German long-term experts of the project, Dr. Ferdinand Schmitt and Henrik Delfs, to participate on-site in China. However, the project was represented by the project team from Beijing, namely Ms Yang Xiaomin and Ms He Yuan, who answered all questions of interested visitors.

Exhibited livestock areas were: pig-, poultry-, and ruminant husbandry; fishing; feeding and

Sino-German Agricultural and Food Update



The team at the German Pavillon (Source: ADT)

feed additives; feeding and animal husbandry technologies; veterinary medicine; vaccines; biosafety products; meat-, milk- and egg processing; animal breeding; bioenergy; packaging; manure disposal and processing; pressing and many others.

Hopefully, in 2021 the pandemic situation improves and exhibitions such as EuroTier in Germany and China can be attended by interested visitors from all countries. From the project side, we have accepted the challenge of the Covid 19 pandemic. In the meantime, both long-term experts have started their trip to China and will continue their work in China from mid-October onwards, after they have gone through the two-week quarantine.

Webinar “Antibiotic-free Feeding of Pigs”

Within the framework of the “Sino-German cooperation project on animal breeding and husbandry in China” the project team organized a three-days online webinar on the topic of “Antibiotic-free feeding of pigs”. More than 120 participants attended the event. The webinar was implemented by ADT Project Consulting GmbH with the National Animal Husbandry Service (NAHS) in close collaboration with German Farm Consulting,

international experts and the project’s business partners such as Big Dutchman, Sano and Menno Chemie. The Webinar took place on the 25 and 26 August with an additional Q&A session on 1 September.

The topic for this event was selected in response to the Chinese government’s legal ban on antibiotic growth promoters in feed from 1 January 2020 onwards.

At the beginning Dr. Liu Chousheng (Head of Department for Animal Breeding at the NAHS) gave a welcome speech via video message to the audience.

Ms Svenja Fuhrman (Federal Ministry of Food and Agriculture (BMEL, Division 624 - International Projects, Twinning) welcomed the participants on behalf of the German Ministry of Food and Agriculture. Then the senior project expert for pig husbandry, Dr. Jörg Krapoth, took over and guided through the programme of the webinar.

The lecture by Dr. Li Jiao (NAHS) described the requirements of laws and regulations for the use of antibiotics in animal husbandry in China. Instead of using antibiotics she recommended the application of traditional Chinese medicine, enzymes and probiotics. Research is currently carried out to develop a strong and healthy animal husbandry in China under the new legal framework.



Welcome by Dr. Liu Chousheng, NAHS (Source: ADT)

Sino-German Agricultural and Food Update



Introduction to the webinar on 25 August
(Source: ADT)

Hauke Hohnhorst (Big Dutchman) pointed out the climate factors and the impact of efficient ventilation on animal health. He also gave an example how to improve old stables by integration of inlet air filter systems. Dr. Ulrich Presuhn showed the importance of a good organisation of work to achieve efficient operational processes and allocation of tasks in modern pig farms. Defined production groups of sows are the main factor for improved hygiene and to prevent the spread of germs through the whole herd.

Starting on 26 August the pig expert, Dr. Dieter Mischok, made clear, that the use of antibiotics in livestock farming is mainly aimed at controlling bacterial diseases. Whereas in the past, antibiotics were applied through feed and drinking water, farms have now the task to change to individual treatment of animals. Dr. Mischok also showed which steps have to be taken to achieve less antibiotic use in pig farming. This also includes staff training on disease signals as early detection.

Jan Nevermann (Menno Chemie) gave a lecture on best practices of animal washing. Washing pigs is one step to fight skin parasites and bacteria, when changing to another compartment. By this, it can reduce the use of antibiotics. Furthermore, it can also help against cannibalism in nursery and fattening. Manfred Schönleben (SANO-Moderne Tierernährung GmbH) contributed to the



Presentation of Dr. Mischok on antibiotic reduction in pig health (Source: ADT)

field of pig nutrition. The best start for a piglet is the milk of the sow. Additionally, there are possibilities to support the development of the digestive tract. Functional components such as fatty acids, acids and salts can positively influence the health of the digestive tract.

Finally, Henrik Delfs gave an overview on factors to achieve an antibiotic-free feeding. Therefore, he showed the achievements done in the project work together with the demonstration farm Yifa located in Henan Province.

On 1 September Dr. Krapoth and Henrik Delfs replied to all upcoming questions collected during the first two days of the webinar. Additionally, both experts shared their experiences from their work at Chinese demo farms. (Henrik Delfs: henrik.delfs@adt.de)



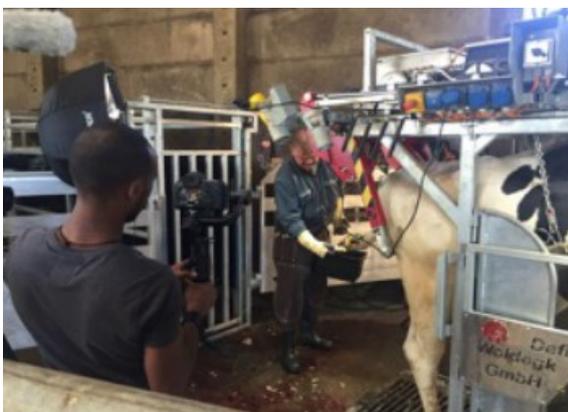
Presentation of Mr Schönleben (Sano) on how to support health of pigs by nutrition (Source: ADT)

Instructional Video on Professional Hoof Trimming

Due to the travel restrictions, international experts do not have any chance to visit China for training courses and practical consultation.

Therefore ADT Project Consulting GmbH is producing two instructional videos in the field of professional hoof care for the “Sino-German Project on Animal Breeding and Husbandry in China” which will be made available for Chinese demo farms and project partners. Both videos are produced in close cooperation with the business partner, Findeisen Klauenpflege, and the German expert Dr. Hans-Peter Klindworth. Dr. Klindworth already held training courses in China during the past years and is one of Germany’s most experienced cattle experts. He is certified as a claw trimmer and veterinarian with specialization in cattle health. Findeisen Klauenpflege GmbH is well known for their professional hoof trimming training courses and hoof trimming stands for cattle.

The importance of claw health and hoof care is often underestimated. Various claw diseases, such as Mortellaro (dermatitis digitalis) have big impact on the cows’ performance, health and wellbeing. Therefore, the project decided to produce two instructional videos to bring the latest best practices to the Chinese partners. In the first video on “Claw



Filming of hoof trimming with Dr. Klindworth (Source: ADT)

health management” the expert demonstrates all aspects of managing a good claw health in the herd. From bringing the cow into the claw stand up to the different steps of professional hoof trimming. The second video on “Hoof care” features the different methods such as bandages, different types of medications and the usage of claw blocks to treat diseased claws. The concept of the videos was elaborated in close consultation and according to the needs of our Chinese project partners.

The filming at a German cattle farm has already been completed. Now the editing and translation is in process. The videos will be introduced to the Chinese demo farms in about one month and aim to help our Chinese colleagues to improve their claw health management. For more information feel free to contact the project long term cattle expert and team leader Dr. Ferdinand Schmitt (ferdinand.schmitt@adt.de).

DCZ Publications

Study on the Seed Market in China by Liu Yonggong and Ba Feng

In this comprehensive study Prof. Liu Yonggong (DCZ, China Agriculture University) and Ba Feng (post-doctoral researcher at Renmin University) provide an overview over the Chinese seed industry and the market system. The supply and production of seeds for major crops are analysed. Chinese seed enterprises are introduced and their market share and competitiveness is assessed. Finally, the authors provide a set of recommendation to strengthen the Sino-German collaboration in the seed sector.

The study can be downloaded at: <https://www.dcz-china.org/en/dcz-publications.html>

Sino-German Agricultural and Food Update

Brief Analysis: Impact of Corona Virus on Chinese Agriculture by Dr. Aihemaitijiang Rouzi

In this report DCZ agriculture expert Dr. Aihemaitijiang looks at the impact of the COVID-19 pandemic on Chinese agriculture including aspects such as food supply chains, food security and sovereignty as well as on the impacts for main agricultural sectors such as grain, soy bean, meat and livestock. He further discusses impacts for international trade and the digital development in the agricultural sector.

The analysis can be downloaded at <https://www.dcz-china.org/en/dcz-publications.html>

Brief Analysis of German Export Promoting Instruments by Lea Siebert

This short analysis summarises German policies and measures with the aim to promote the export of German agricultural products. Besides the main political stakeholders also the main target groups from the German agri-food sector are presented. Furthermore, the report looks into the limitations of export promotion in Germany.

The analysis can be downloaded at <https://www.dcz-china.org/en/dcz-publications.html>

Reviews of Publications

Transformation of our food systems. The making of a paradigm shift. Edited by Hans R. Herren and Benedikt Haerlin, IAASTD +10 Advisory Group

More than a decade after the first publication of the International Assessment of Agricultural Knowledge, Science and Technology for Development (IAASTD) Report this new book

takes a look on what has been achieved since the first report. More than 40 authors, many of them involved in the first report as well as in other related UN reports, contributed to the book. Edited by former IAASTD co-president and world food prize winner Hans Herren and NGO-representative in the IAASTD Bureau Benedikt Haerlin, the book provides a profound assessment of the state of international research in topics related agriculture and food including climate, biodiversity, nutrition and health, increase of zoonotic diseases, agriculture and urbanization, agriculture and digitalization.

The report can be downloaded at <https://www.globalagriculture.org/transformation.html>

Aligning the post-2020 CAP with the Green Deal. The European Green Deal, sustainable agri-food systems, and the Common Agricultural Policy. Anne Marechal, Kaley Hart, David Baldock, Stephanie Wunder (Ecologic Institute) and Pierre Marie Aubert (IDDR). Institute for European Environmental Policy.

This paper examines the role the Common Agricultural Policy (CAP) could play in stimulating a transformation towards more sustainable and resilient agrifood systems, in line with the green growth ambition of the European Green Deal.

Download at <https://ieep.eu/publications/aligning-the-post-2020-common-agricultural-policy-with-the-european-green-deal>

Decoupling Livestock and Crop Production at the household level in China by Shou Jin et al. *Nature Sustainability*, <https://doi.org/10.1038/s41893-020-00596-0>

Animal manure used to be a major source for fertilizer in traditional Chinese farming. However, according to the data analysed in this paper, between 1986 and 2017 the share of rural households in China relying on both crop production and livestock farming decreased from 71% to 12%. During this period increasing demand for animal products has changed the livestock farming system and many farms transitioned to industrial livestock farming. In the research period the animal stocking intensity increased from 9 to 31 pigs per ha. Rapid mechanization has decreased the number of draught animals. In 2017 only 5% of rural households keep draught animals. In the same period application of synthetic fertilizers increased and it is noted that small farms tend to apply more fertilizer per ha. At the same time low fertilizer efficiency rates are of great environmental concern: it is estimated that about 50% of fertilizer do not reach the crops. As rural households with a combination of crop production and livestock farming apply less agrochemicals the authors see a great opportunity to revise the trend for improvement of agriculture sustainability. It is noted that the government plays an important role by implementing measures such as subsidizing manure recycling to rebuild the connection between crop production and livestock farming. However, as the authors note, so far these policies mainly focus on large-scale farms and do not include small farms that still account for half of China's meat production.

Sino-German Agricultural and Food Update

Upcoming Events 2020-21

With ongoing Corona crisis all dates of conferences and trade fairs tbc.

Date	Location	Event	Contact
October			
30.10 - 1.11	Qingdao	CIAME – China International Agricultural Machinery Fair	Qingdao World Expo City International Exhibition Center http://ifw-expo.de/exhib/ciame-2020-2/ Registration German Pavillion Friederike Arnz: f.arnz@ifw-expo.com Tel. +49 62211357-0
November			
4-5	Shanghai	14th China International Food Safety & Quality Conference	www.chinafoodsafety.com angela.cheng@infoexws.com Lyd- ia.wang@infoexevents.com.cn
30.11 - 3.12	Yanqi Lake Huairou District, Beijing	Sino-German Agricultural Week	www.dcz-china.org
December			
4-5	Nanjing	2020 International Future Agri-Food Top 100 . Baima Summit Proposal, IFA 2020	Jiangsu Baima Agriculture International Exhibition Center, Nanjing
2021			
January			
18-22	virtual	Global forum for Agriculture (GFFA) How to feed the world in times of Pandemics and Climate Change	www.gffa-berlin.de
May			
17-	Kunming	UN Biodiversity Conference COP 15 of Convention on Biological Diversity	
June			
8-10	Gut Brockhof, Erwitte Lippstadt (Germany)	DLG-Feldtage Meet the Crop Professionals	www.dlg-feldtage.de
23-24	Hessian State farm Gladbacherhof, Aumenau, Vilmar	Öko-Feldtage (Organic Field Days)	https://oeko-feldtage.de/?lang=en

Sino-German Agricultural and Food Update

Imprint

This issue was compiled by the international DCZ team. For enquiries and subscription please send an email to info-dcz@iakleipzig.de

Any news about upcoming events and conferences to share? Please send your information to e.sternfeld@iakleipzig.de

Address: Room 724-27, Zhong Ou Hotel, 55 Nongzhan Beilu, Chaoyang District, 100125 Beijing, PR China

Website: www.dcz-china.org

DCZ on LinkedIn: <https://www.linkedin.com/company/dcz-china/>

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