加快畜禽养殖废弃物资源化利用
推进畜牧业绿色发展

Accelerating the utilization of animal husbandry wastes
Promoting the green development of animal husbandry

全国畜牧总站
National Animal Husbandry Service

中国饲料工业协会
China Feed Industry Association

站长
Director General

秘书长
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Zhenhai YANG

2018年10月22日
October 22, 2018

中国，北京
Beijing, China




中国是世界第一大畜牧业生产国
China: the world's 1st largest animal husbandry country

- **养殖规模大：**养着全世界一半的猪、1/3的家禽、1/5的羊、1/11的牛，畜牧业总产值超过3万亿元。

  Large-scale husbandry: 1/2 swine, 1/3 poultry, 1/5 sheep, and 1/11 cows of the world. The total output value of animal husbandry is over 3 trillion RMB (~433 billion USD).

- **从业人员多：**约9200万农户从事畜牧业。

  Numerous farmers: about 92 million in animal husbandry.

- **畜禽产品供给有力：**肉类和禽蛋产量稳居世界第1位，奶类产量居世界第3位。

  Sufficient supply of livestock and poultry products: the production of both meat and eggs ranks the 1st in the world, and dairy production ranks the 3rd.

2.3亿公斤
230 million kg

8000万公斤
80 million kg

1亿公斤
100 million kg

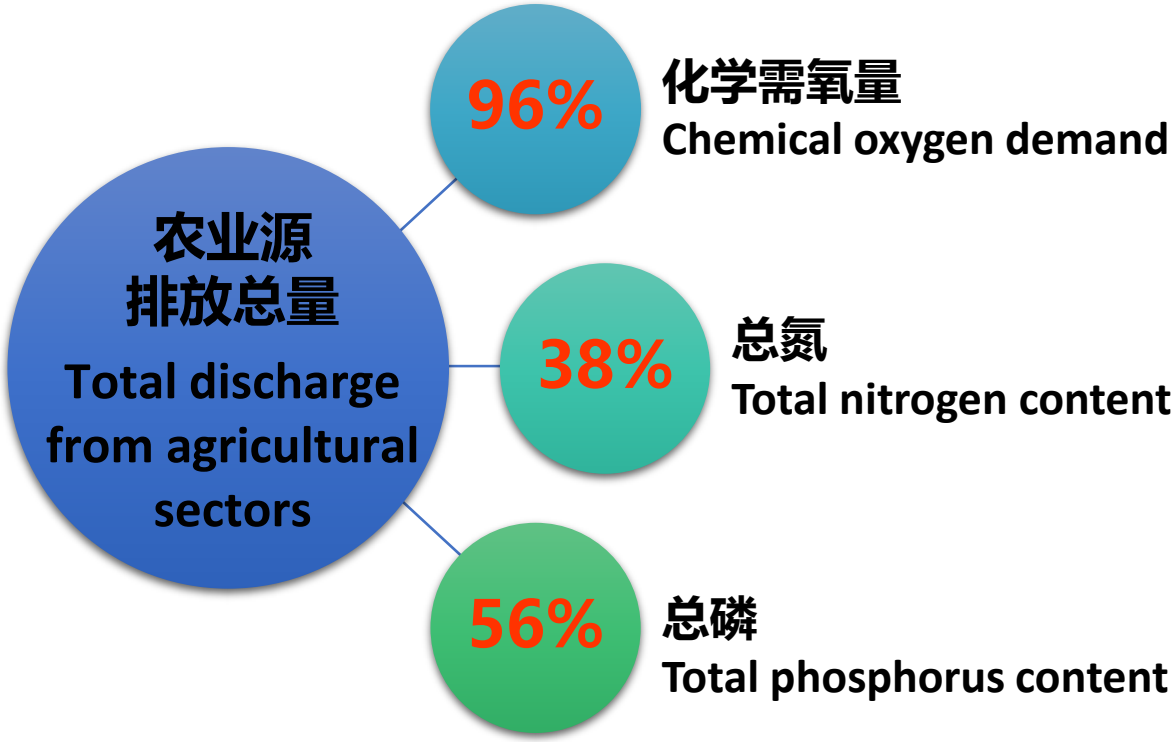
中国每天要消耗2.3亿公斤肉、8000万公斤禽蛋、1亿公斤牛奶。

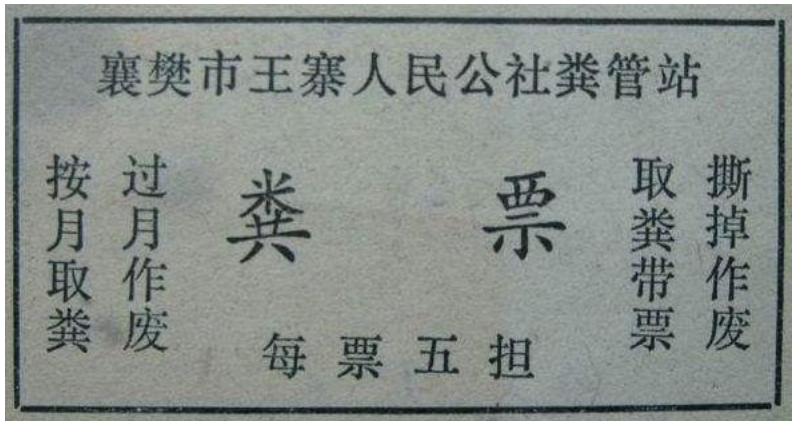
China consumes around 230 million kg of meat, 80 million kg of eggs, and 100 million kg of milk per day.

畜禽粪污是放错地方的资源
Livestock and poultry wastes are misplaced resources

全国畜禽粪污年产生量约**38亿吨。**

In China, the annual discharge of livestock and poultry wastes is around **3.8 billion tons**.



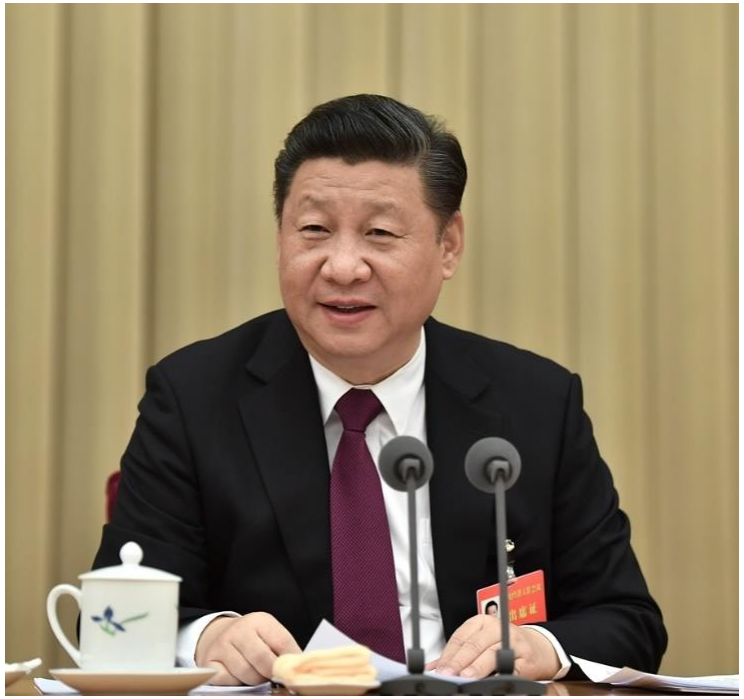


来源：2010年《第一次全国污染源普查公报》

Source: “The First National Pollution Sources Census Bulletin”, 2010

中央政府高度重视粪污资源化利用
召开专门会议号召各地各部门加快利用步伐

The Chinese Central Government pays particular attention to the manure utilization;
Specific meetings among different regions and departments should be held to expedite the utilization.



中央财经领导小组第14次会议（2016年12月）

The 14th meeting of the Central leading group on financial and economic affairs (December, 2016)

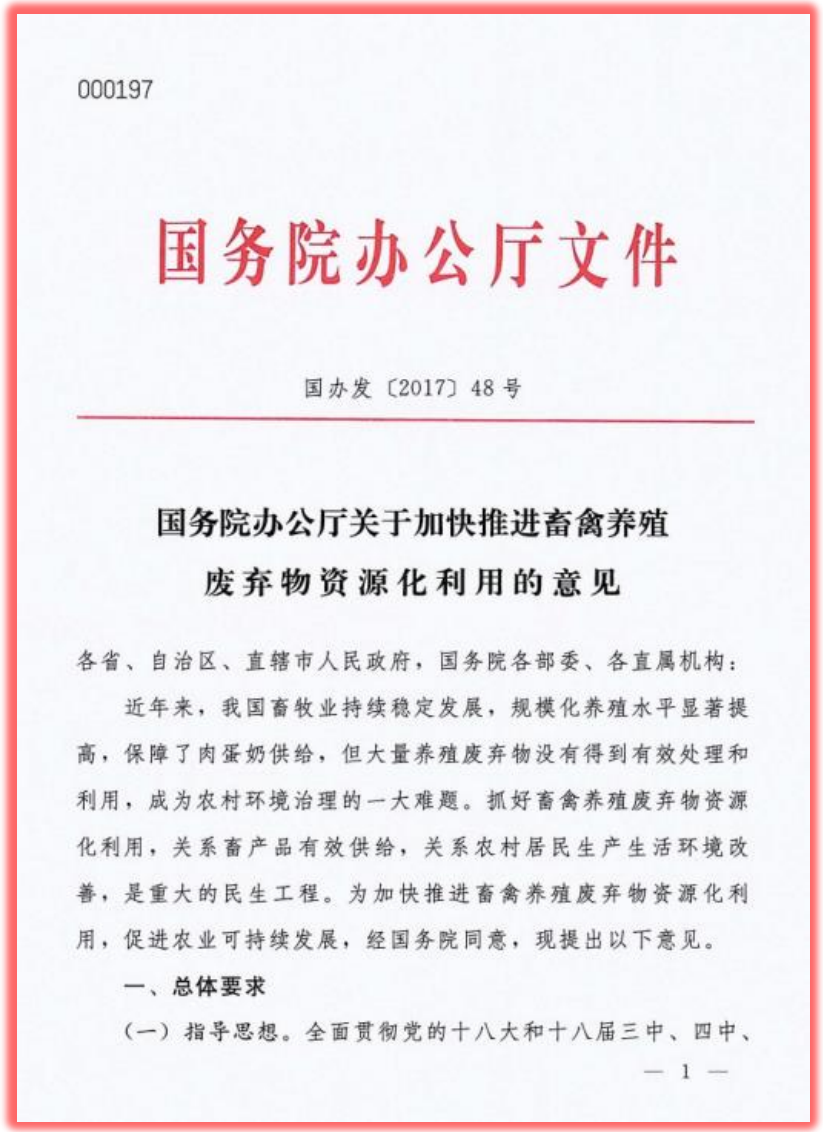
- **是一件利国利民利长远的大好事。**
  It is a good deed that benefits the country, people and future.
- **坚持政府支持、企业主体、市场化运作的方针。**
  Firmly insist on the policies "government supports, companies dominate, and market operates".
- **以就地就近用于农村能源和农用有机肥为主要使用方向。**
  Apply the results in on-site and nearby rural energy sources or fertilization processes.
- **力争在"十三五"时期，基本解决大规模畜禽养殖场粪污处理和资源化问题。**
  Aim to completely recover the livestock and poultry wastes from large-scale farms during the 13th five-year plan period (2016-2020).

国家畜禽养殖废弃物资源化利用科技创新联盟（NAWA）
National Animal Waste Resource Processing Innovation Alliance (NAWA)

- 2017年2月27日联盟成立，478家成员。
  The Alliance was established on February 27, 2017, including 478 members.

- 于康震副部长给予充分肯定：**联盟发挥了积极作用，功不可没。**
  Mr. Kangzhen YU, the Vice Minister of Ministry of Agriculture and Rural Affairs of the People's Republic of China (MoA), **convinced the positive effects and contribution of NAWA**.

工作进展——1. 建制度
Progress——1. Establishment of systems and mechanism



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国务院办公厅文件

国办发〔2017〕48号

国务院办公厅关于加快推进畜禽养殖废弃物资源化利用的意见

各省、自治区、直辖市人民政府，国务院各部委、各直属机构：

近年来，我国畜牧业持续稳定发展，规模化养殖水平显著提高，保障了肉蛋奶供给，但大量养殖废弃物没有得到有效处理和利用，成为农村环境治理的一大难题。抓好畜禽养殖废弃物资源化利用，关系畜产品有效供给，关系农村居民生产生活环境改善，是重大的民生工程。为加快推进畜禽养殖废弃物资源化利用，促进农业可持续发展，经国务院同意，现提出以下意见。

一、总体要求

（一）指导思想。全面贯彻党的十八大和十八届三中、四中、

— 1 —

- 2017年5月31日，**国务院办公厅**印发我国畜牧业发展史上**第一个**专门针对粪污利用问题出台的指导性文件。
  On May 31, 2017, **the General Office of the State Council** released the **1st** guideline specifically for the utilization of livestock and poultry wastes.
- 明确了新时期畜禽养殖废弃物资源化利用的总体思路和重点任务。
  The guideline clarified the general plan and key tasks of utilization of livestock and poultry wastes.
- 农业农村部提出：一年试点，两年铺开，三年大见成效，2020年全面完成。
  The MoA proposed: setting-up pilot demonstration sites in the 1st year, spread-out in the 2nd year, major achievements in the 3rd year, and accomplishment of the whole task by 2020.

工作进展——1. 建制度
Progress——1. Establishment of administration systems and mechanism

5项制度
5 administration systems

+

1项机制
1 mechanism

畜禽规模养殖环评制度
Environmental impact assessment of animal husbandry

畜禽养殖污染监管制度
Pollution inspection of animal husbandry

属地管理责任制度
Territorial management responsibility

规模养殖场主体责任制度
Major responsibility of large-scale farms

绩效评价考核制度
Performance evaluation

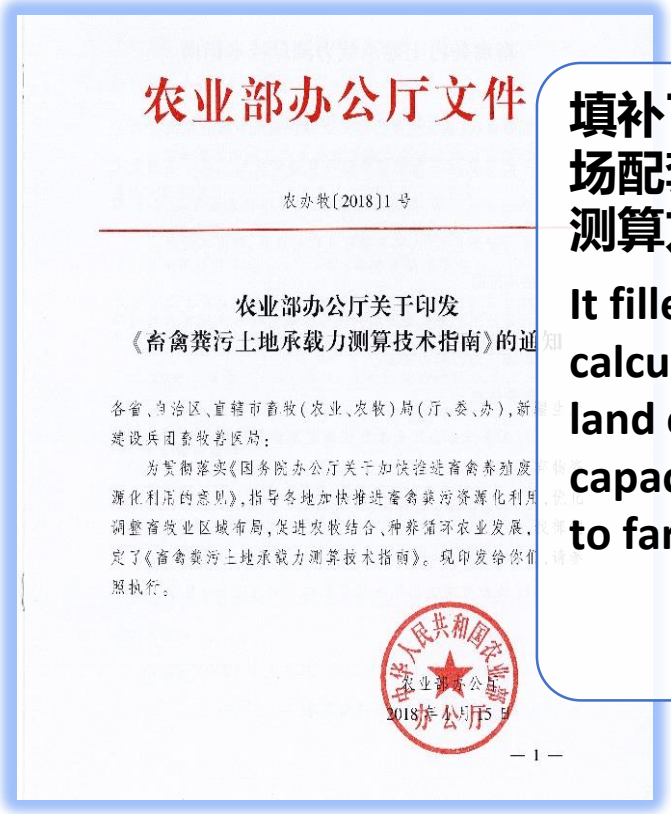
种养循环发展机制
Planting-breeding circulating mechanism

管根本、管长远的一套制度框架体系
A framework focuses on essential and long-term needs

工作进展——1. 建制度
Progress——1. Establishment of administration systems and mechanism

《畜禽粪污土地承载力测算技术指南》

“Technical guidelines for assessment of land elimination capacity to livestock and poultry wastes” by MoA



农业部办公厅文件

农办牧〔2018〕1号

农业部办公厅关于印发
《畜禽粪污土地承载力测算技术指南》的通知

各省、自治区、直辖市畜牧（农业、农牧）局（厅、委、办），新疆生产建设兵团畜牧兽医局：

为贯彻落实《国务院办公厅关于加快推进畜禽养殖废弃物资源化利用的意见》，指导各地加快推进畜禽粪污资源化利用，优化调整畜牧业区域布局，促进农牧结合、种养循环农业发展，制定了《畜禽粪污土地承载力测算技术指南》。现印发给你们，请参照执行。

农业部办公厅
2018年1月15日

— 1 —

填补了规模养殖场配套土地面积测算方法空白。

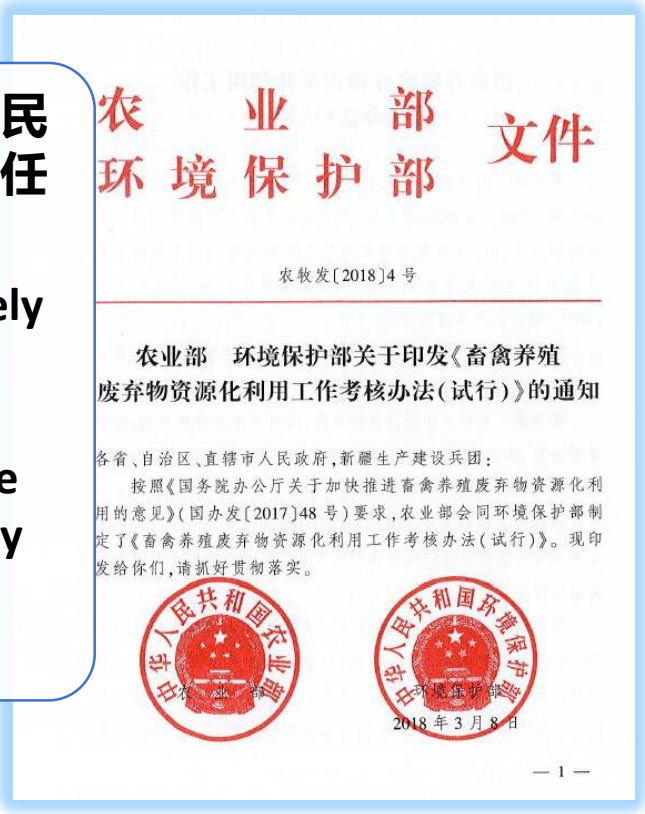
It filled the gap in calculating the land carrying capacity according to farm scales.

《畜禽养殖废弃物资源化利用工作考核办法（试行）》

“Assessment methods for utilization of animal husbandry wastes (Trial)” by MoA and Ministry of Environmental Protection

综合评价省级人民政府工作落实和任务完成情况。

It comprehensively evaluated the degree of completion of the work and tasks by provincial governments.



农业部 环境保护部 文件

农牧发〔2018〕4号

农业部 环境保护部关于印发《畜禽养殖废弃物资源化利用工作考核办法（试行）》的通知

各省、自治区、直辖市人民政府，新疆生产建设兵团：

按照《国务院办公厅关于加快推进畜禽养殖废弃物资源化利用的意见》（国办发〔2017〕48号）要求，农业部会同环境保护部制定了《畜禽养殖废弃物资源化利用工作考核办法（试行）》。现印发给你们，请抓好贯彻落实。

农业部
环境保护部
2018年3月8日

— 1 —

工作进展——2. 治重点
Progress——2. Management of main pollution

整县推进
Supporting major counties

- **586个畜牧大县，已支持300个**
  586 counties where 300 were supported.
- **整县推进、不留死角、分批治理**
  No neglected corners, batch-by-batch.

整市推进
Supporting major municipalities

- **5个：石家庄市、驻马店市、襄阳市、长沙市、南充市**
  5 cities: Shijiazhuang, Zhumadian, Xiangyang, Changsha, and Nanchong.

整省推进
Supporting major provinces

- **4个：北京、天津、江苏、浙江**
  4 provinces: Beijing, Tianjin, Jiangsu, and Zhejiang.

- 方式：以奖代补
  Method: rewards instead of subsidy.
- 支持重点
  Main supports

➢ 支持第三方处理主体粪污收集、贮存、处理、利用设施建设。
Support the construction of facilities to collect, store, and utilize manure by third parties.

➢ 支持规模养殖场特别是中小规模养殖场改进节水养殖工艺和设备，建设粪污资源化利用配套设施。
Support the improvement of operation and equipment for water-saving breeding processes and construction of facilities for manure utilization by scaled farms.

工作进展——3. 促利用
Progress——3. Promotion of utilization

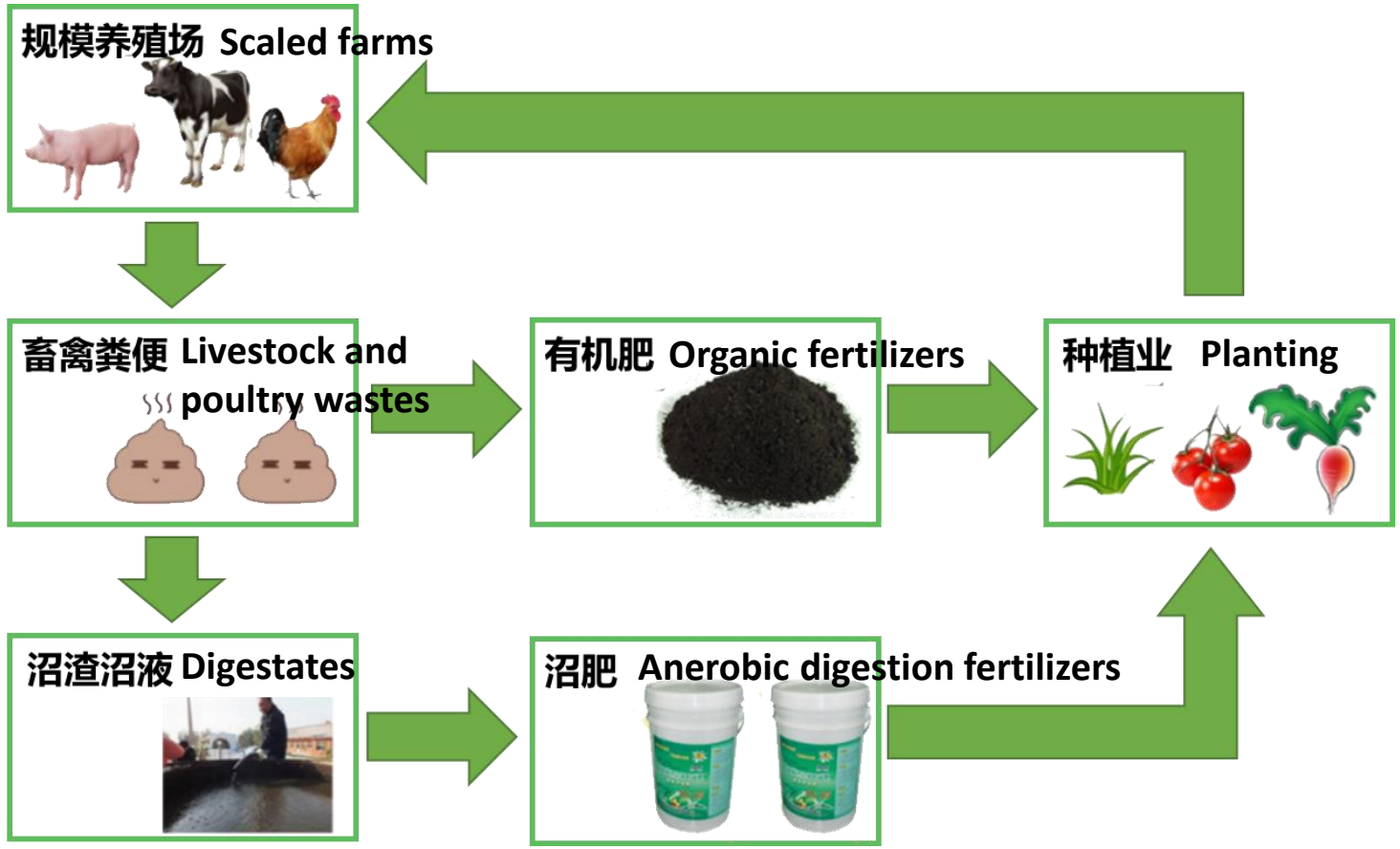
全国畜禽粪污综合利用率已达到**64%**。

The utilization rate of livestock and poultry wastes in China has reached **64%**.

➢ **肥料化**
Fertilization

实施有机肥替代化肥行动，支持使用畜禽粪污为主要原料生产有机肥。

Replace chemical fertilizers with organic ones. Encourage the production of organic fertilizers using livestock and poultry wastes.



工作进展——3. 促利用
Progress——3. Promotion of utilization

➢ 能源化
Waste-to-energy

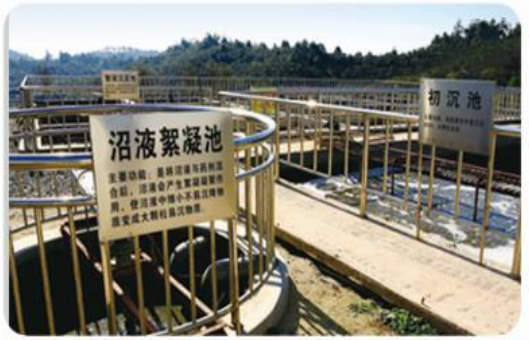
支持建设规模化天然气和规模化大型沼气工程500多个。
More than 500 scaled biomethane or biogas facilities were built up.

能源化利用
Waste-to-energy

沼气入户
Household biogas grid

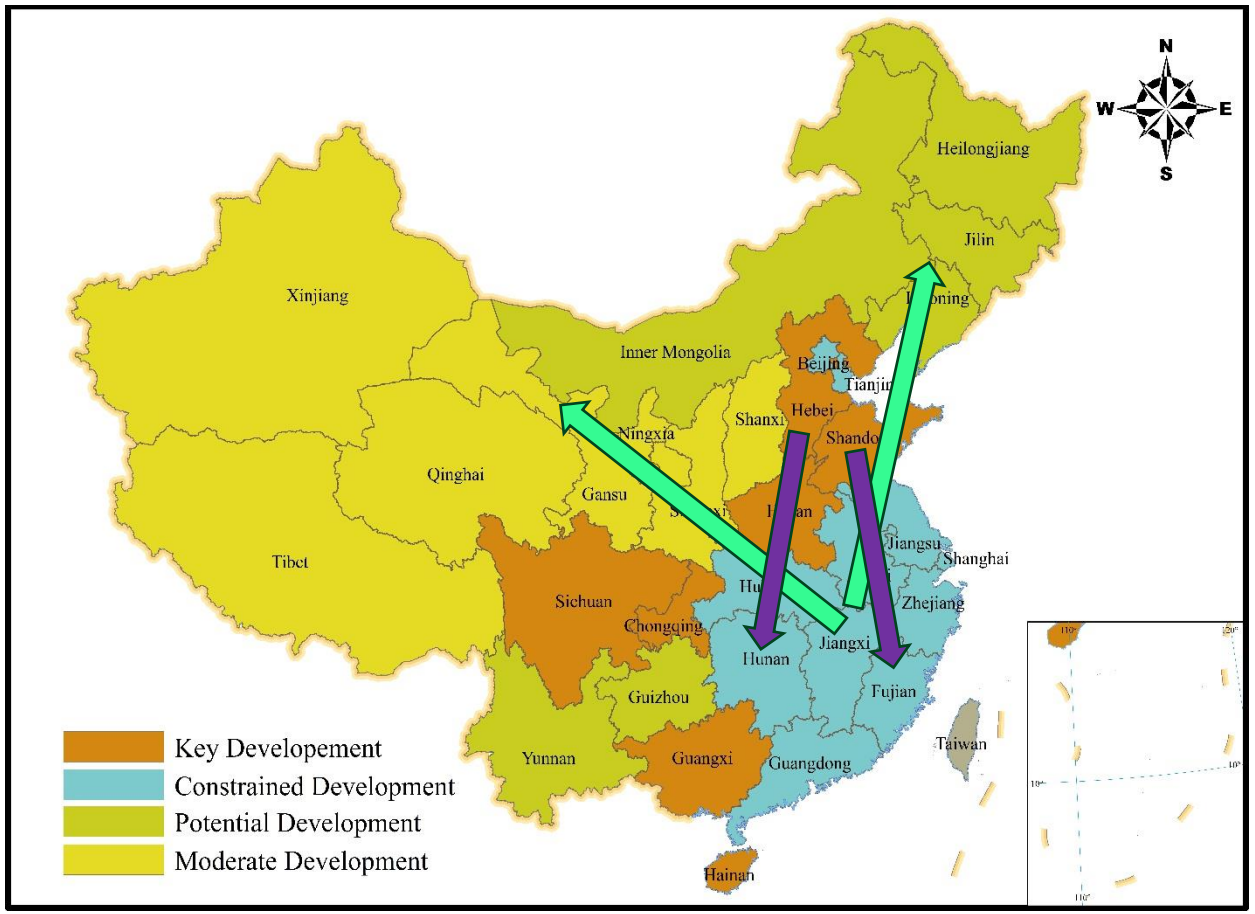
沼气发电
Biogas power generation

生物天然气
Biomethane



工作进展——4. 优布局
Progress——4. Optimization of arrangement

生猪：北移西进　Swine towards Northern and Western China
蛋鸡：东扩南下　Chickens towards Eastern and Southern China



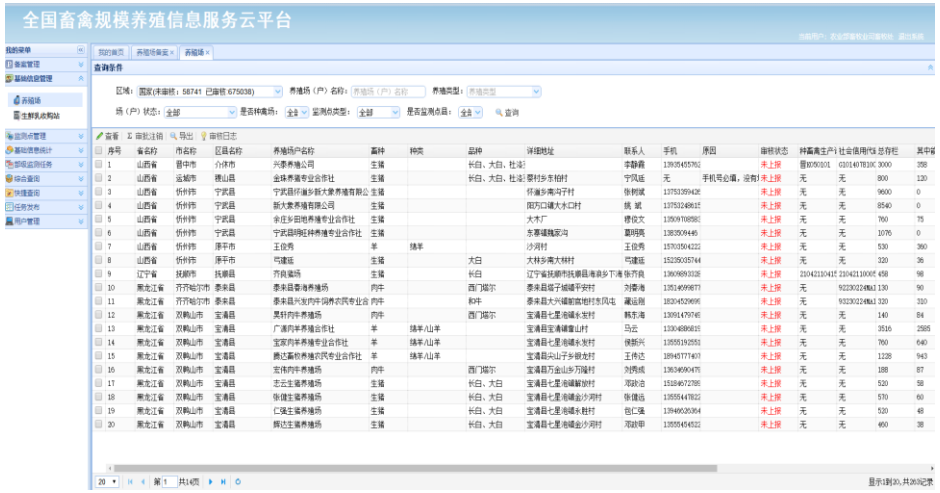
- 大型养猪企业纷纷在东北四省及西部地区建场。
  Most of large-scale swine farms were set up in 4 Northeastern provinces and Western China.
- 累计调减生猪存栏3400万头，南方水网地区环境压力得到缓解。
  Environmental pressure in Southern China was relieved by reducing 34 million swine.

- 随着环境控制设施和养殖工艺的改善，蛋鸡养殖东扩南下，南方长距离调运鸡蛋的情况逐步改善。
  Along with the development of facilities and operation strategies, some poultry farms were built up in Eastern and Southern China. Therefore, the issue on the long-distance transportation of eggs is improved.

工作进展——5. 严监管
Progress——5. Strict inspection

➢ **建立畜禽规模养殖场直联直报信息系统**
A direct monitoring and reporting information system for animal husbandry farms was launched.

- 规模场60多万家。
  More than 600,000 scaled farms are under coverage.
- 标志着粪污资源化利用实现了网上监管
  Realize the online inspection of utilization of livestock and poultry wastes.
- 畜牧大县、规模养殖场监管全覆盖。
  Fully cover the inspection of husbandry counties and scaled farms.
- 为绩效考核、政策实施、日常监管等工作提供基础支撑。
  Provide a tool for performance evaluation, policy implementation and daily inspection.



工作进展——6. 强支撑
Progress——6. Strong supports

修订《饲料添加剂安全使用规范》
Revise “Safety specification of feed additives”

大幅调减饲料铜、锌限量值
Dramatically lower the upper limit of Cu and Zn in feed

倒逼养殖场发展绿色健康养殖
Force the development of green and healthy animal husbandry

加强源头管控
Strict control at origins

每年减排
铜0.8万吨
锌超过1.65万吨
Reduce more than 8000 tons of Cu and
16,500 tons of Zn per year

工作进展——6. 强支撑
Progress——6. Strong supports


ICS 65.120
B 46

中国饲料工业协会团体标准

T/CFIAS 001—2018

仔猪、生长育肥猪配合饲料

Formula feeds for starter and growing-finishing pigs

（报批稿）


ICS 65.120
B 46

中国饲料工业协会团体标准

T/CFIAS 002—2018

蛋鸡、肉鸡配合饲料

Formula feeds for layers and broilers

（报批稿）

- 中国饲料工业协会组织起草了《仔猪、生长育肥猪配合饲料》《蛋鸡、肉鸡配合饲料》2项**团体标准**。
  The China Feed Industry Association drafted **2 group standards** including “Formula feeds for starter and growing-finishing pigs” and “Formula feeds for layers and broilers”.

- 增设了粗蛋白质、总磷的上限值，推广低蛋白日粮配制技术。
  The standards determined the upper limit of the content of raw protein and total phosphorus, and promoted new techniques to produce low-protein feed.

- 减少饲料原料消耗，带动畜禽养殖节本增效；推动畜牧业源头减排，促进绿色发展。
  The standards aim to reduce the consumption of raw feedstock, increase the efficiency of animal husbandry, mitigate greenhouse gas emissions from animal husbandry processes, and facilitate the green development of animal husbandry.

二 粪污资源化利用的主要模式
Main modes of utilization of livestock and poultry wastes

农耕文明的精华之一：**农牧结合**

Essence of farming civilization: **integration of planting and breeding**

2017年中央农村工作会议强调：必须传承发展提升农耕文明，走乡村文化兴盛之路。

The 2017 Central Conference on Rural Work called for the development of farming civilization and prosperity of country culture.

西汉《氾胜之书》 Han Dynasty

凡耕之本，在于趋时和土，务粪泽，早锄，早获。

The essence of farming is timing and soil quality. Manure can modify soil. Plant earlier and harvest earlier.

元代《王祯农书》 Yuan Dynasty

田有良薄，土有肥硗，耕农之事，粪壤为急。

Different soils have different qualities. The primary task of farming is to fertilize the soil using manure.

清代《知本提纲》 Qing Dynasty

田得膏润而生息，变臭为奇，化恶为美，丝谷倍收，蔬果倍茂。

After being applied with manure, the soil becomes fertile, odors disappear, and the yield of crops, vegetables, and fruits is doubled.

二 粪污资源化利用的主要模式
Major modes of utilization of livestock and poultry wastes

种养结合
Integration of planting and breeding

- 粪污全量还田
  Full return of manure to soil
- 粪便堆肥利用
  Composting of manure
- 粪污能源化利用
  Energy production using manure
- 粪水肥料化利用
  Fertilization of manure and slurry

清洁回用
Clean recovery and recycling

- 粪便基质化利用
  Manure-to-medium
- 粪便垫料化利用
  Manure-to-bedding
- 粪便饲料化利用
  Manure-to-feed
- 粪便燃料化利用
  Manure-to-fuel

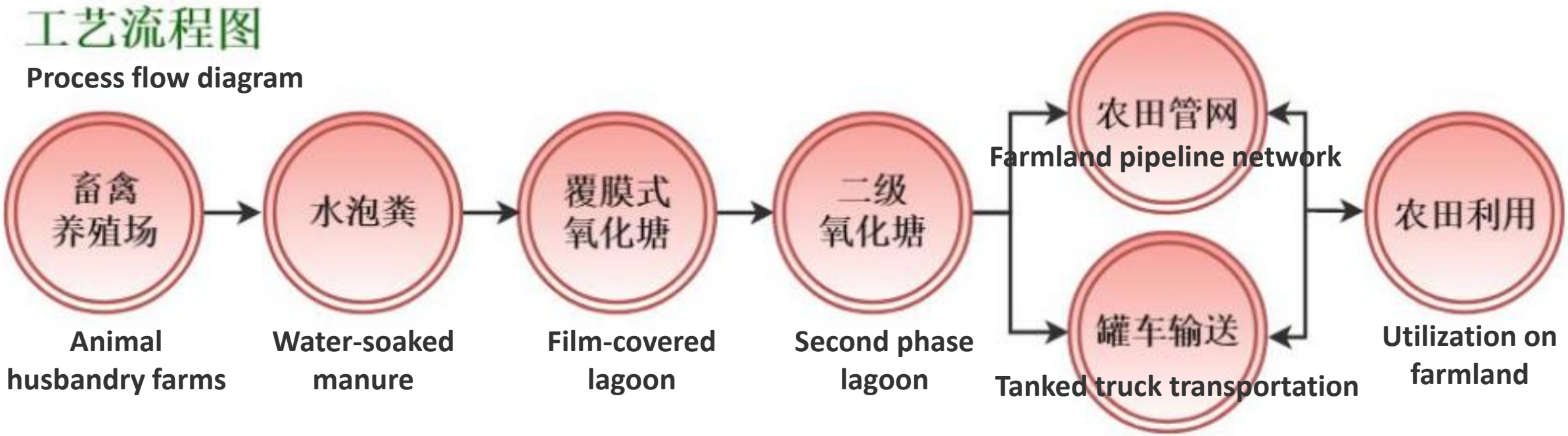
达标排放
Up-to-standard discharge

- 粪水达标排放
  Up-to-standard discharge of slurry

3大类
9种典型技术模式

3 categories
9 typical technical modes

1 粪污全量还田模式
Full return of livestock and poultry wastes to soil



主推区域：东北地区、中东部地区和西北地区。

Main regions: Northeastern, Mid-eastern, and Northwestern China.

1 粪污全量还田模式
Full return of livestock and poultry wastes to soil

优点 Advantages

- 设施建设成本低
  Low cost of facilities
- 处理利用费用较低
  Low cost of treatment
- 养分利用率高
  High efficiency of utilization of nutrient

缺点 Disadvantages

- 需要足够的土地建设氧化塘贮存设施
  High need in land to construct storage facilities
- 施肥期较集中
  Intensive fertilization period
- 粪污只能在一定范围内施用
  Limited application of manure

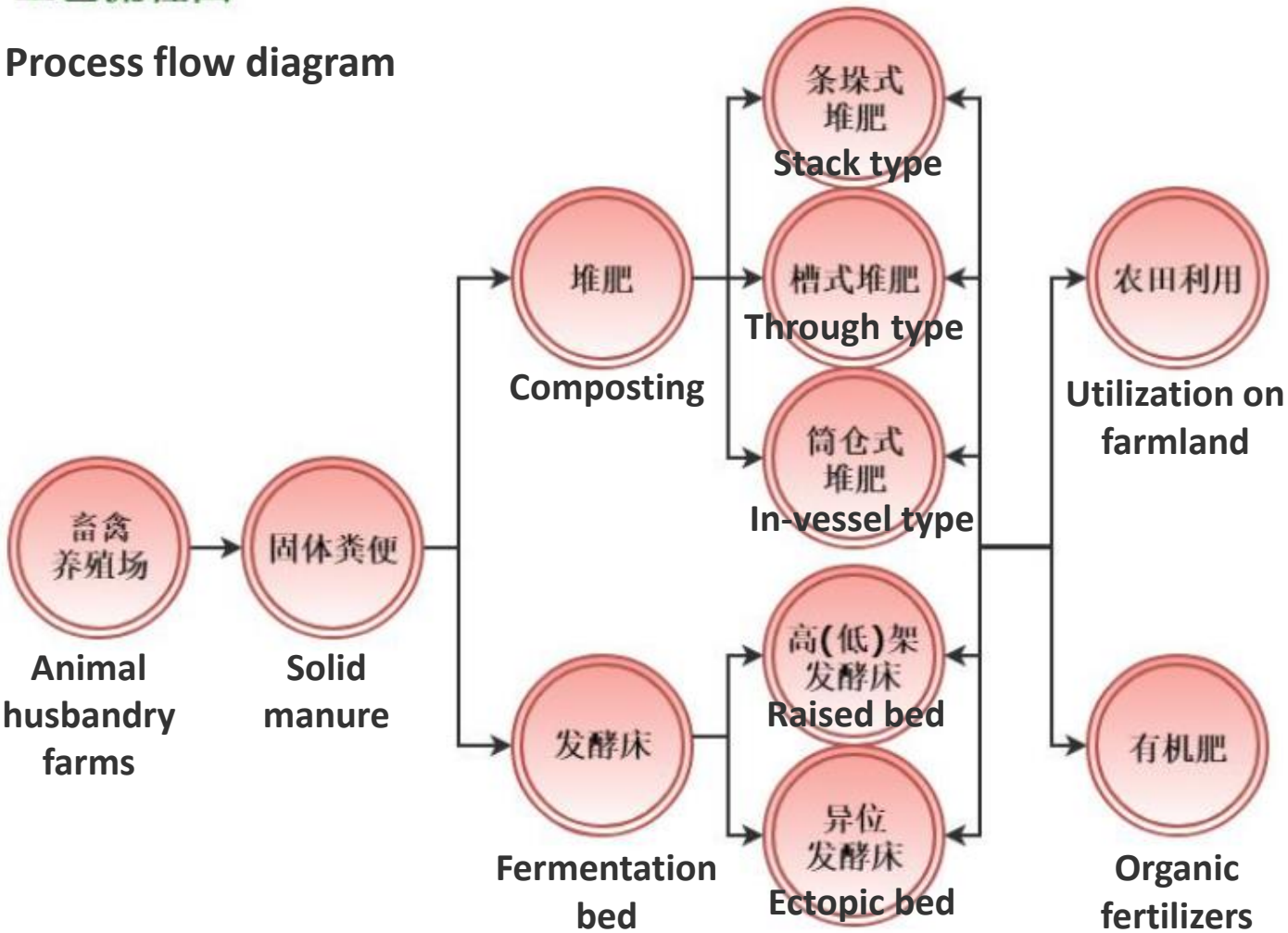
适用范围 Conditions for use

- 猪场水泡粪工艺
  Water-soaked manure in swine farms
- 奶牛场自动刮粪回冲工艺
  Automatic manure scraper in dairy cow farms
- 粪污总固体含量要小于15%
  The total solid content of manure should be <15%

2 粪便堆肥利用模式
Composting of livestock and poultry wastes

工艺流程图

Process flow diagram



主推区域：除了东北地区以外的全国其他区域。

Major regions: nationwide except Northeastern China.

2 粪便堆肥利用模式
Composting of livestock and poultry wastes

优点 Advantages

- 粪便无害化处理比较彻底
  Complete hazard-free treatment of manure
- 提高了粪便的附加值
  Value-added products
- 经济效益比较好
  Better economic profits

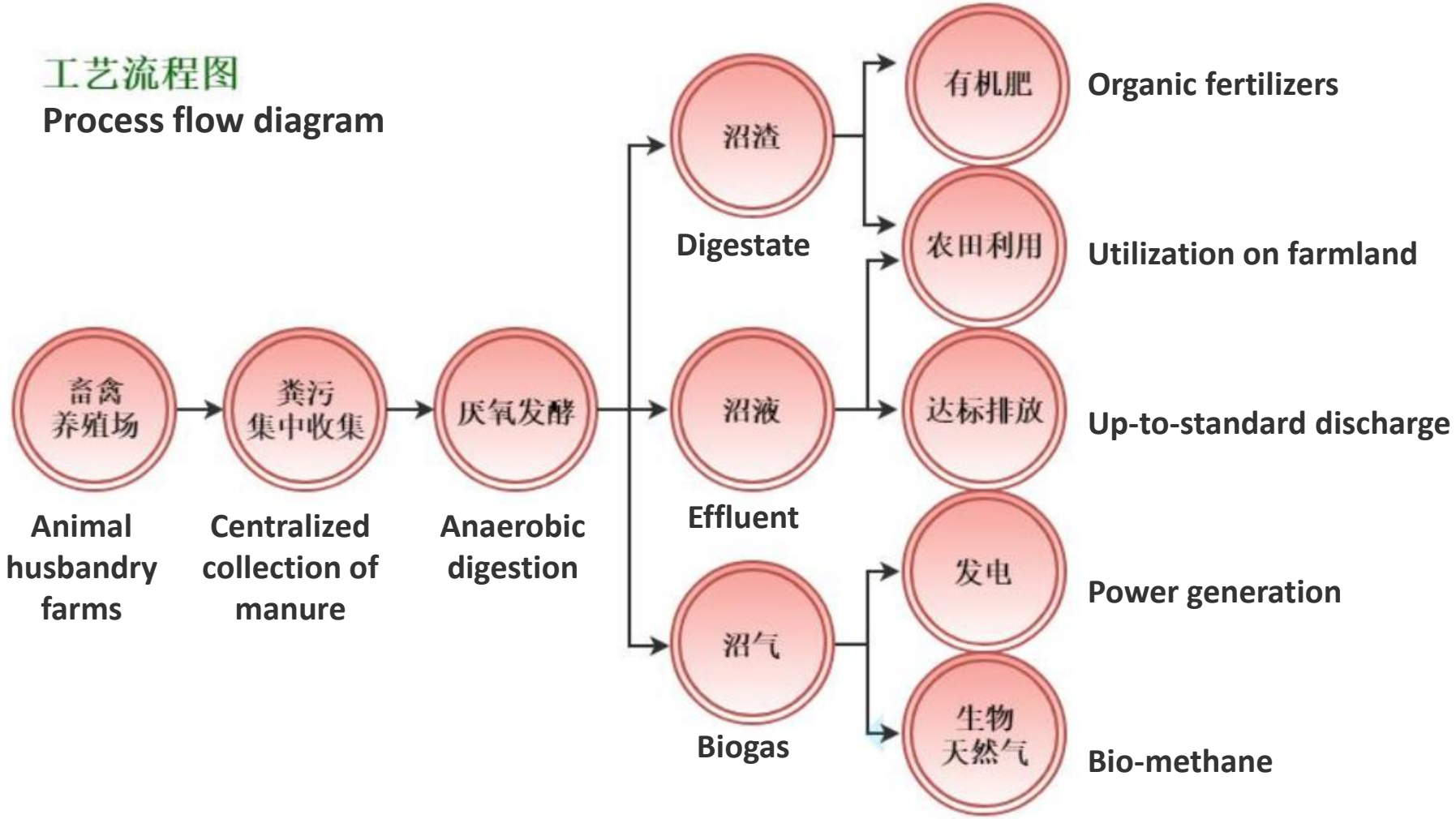
缺点 Disadvantages

- 好氧堆肥过程容易产生臭气
  Odor emissions during composting

适用范围 Conditions for use

- 规模化肉鸡、蛋鸡或羊等养殖场
  Scaled poultry, layers, and sheep farms

3 粪污能源化利用模式
Energy production using livestock and poultry wastes



主推区域：除了中东部地区以外的全国其他区域。

Major regions: nationwide except Mid-eastern China.

3 粪污能源化利用模式
Energy production using livestock and poultry wastes

优点 Advantages

- 减少了周边小规模养殖场的粪污处理设施投资
  Low investment on waste treatment facilities for small-scale farms
- 能源产品生产效率高
  High efficiency in generating energy products

缺点 Disadvantages

- 一次性投资多
  High initial investment
- 沼液处理成本较高
  High cost of effluent treatment
- 需要具备沼气发电上网或生物天然气进入管网条件
  Requirements for the connections of biogas-to-grid or biomethane-to-pipeline

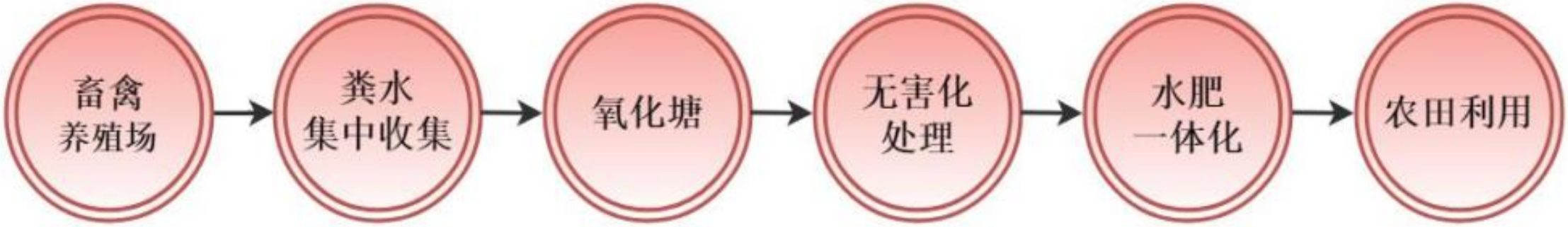
适用范围 Conditions for use

- 大型规模养殖场或养殖密集区
  Large-scale farms or intensive husbandry regions
- 需要地方政府配套政策给予扶持
  Needs for subsidy and supporting policies from local governments

4 粪水肥料化利用模式
Fertilization of slurry

工艺流程图

Process flow diagram



Animal husbandry farms

Centralized collection of slurry

Lagoon

Disinfection

Combination of fertilizing and irrigation

Utilization on farmland

主推区域：东北地区、东部沿海地区、中东部地区、华北平原地区和西南地区。

Major regions: Northeastern, Mid-eastern, and Southwestern China, Eastern coastal area, and North China Plain area.

4 粪水肥料化利用模式
Fertilization of slurry

优点
Advantages

- 为农田提供有机肥水资源
  Provide liquid organic fertilizers for farmland
- 解决了污水处理压力
  Reduce the pressure of wastewater treatment

缺点
Disadvantages

- 要有一定容积的贮存设施
  Require storage facilities
- 周边配套一定面积的农田
  Require farmland
- 增加了处理利用成本
  Increase the cost of treatment

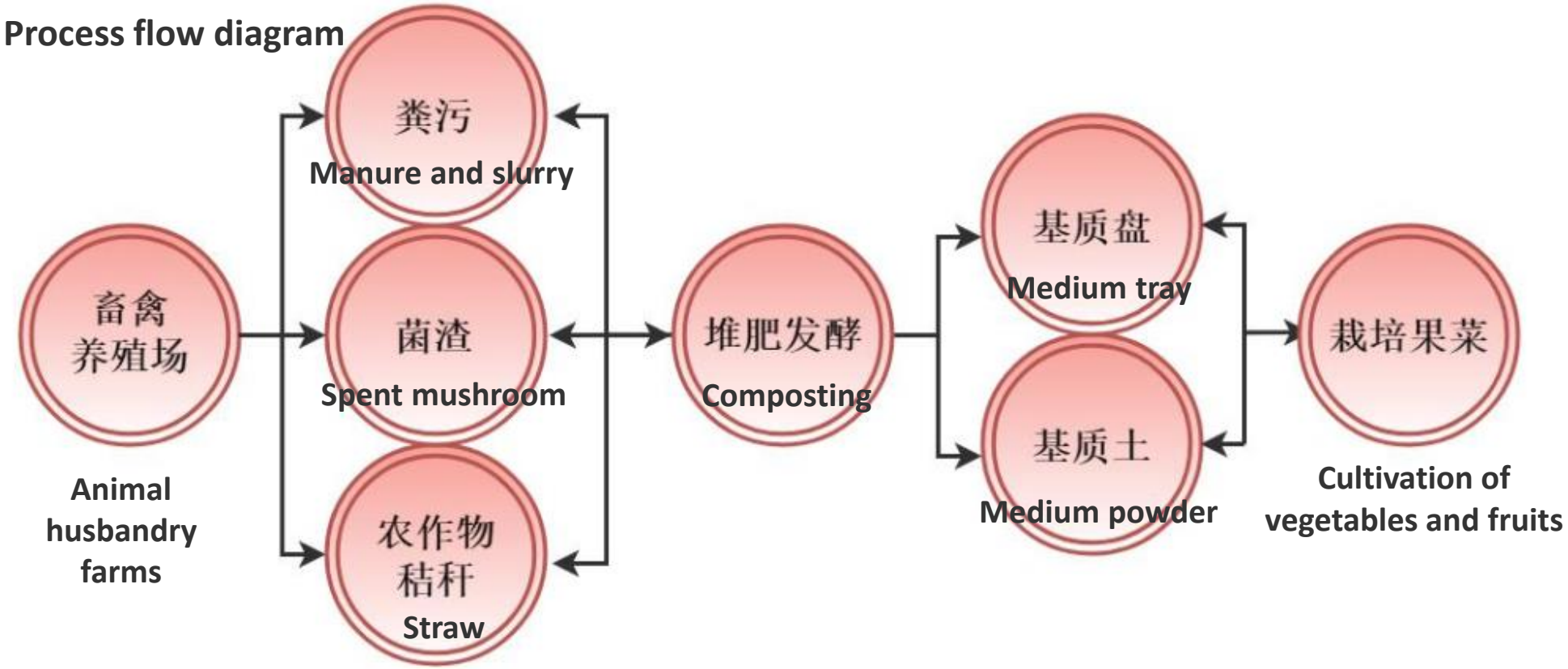
适用范围
Conditions for use

- 周围配套有一定面积农田的规模猪场或奶牛场
  Scaled swine or dairy cow farms with farmland

5 粪便基质化利用模式
Manure-to-medium

工艺流程图

Process flow diagram



主推区域：西北地区。

Major regions: Northwestern China.

5 粪便基质化利用模式
Manure-to-medium

优点
Advantages

- 形成有机循环农业综合体系
  Establishment of a comprehensive system for organic cycling agriculture
- 提高资源综合利用率
  Enhancement of comprehensive utilization of resources

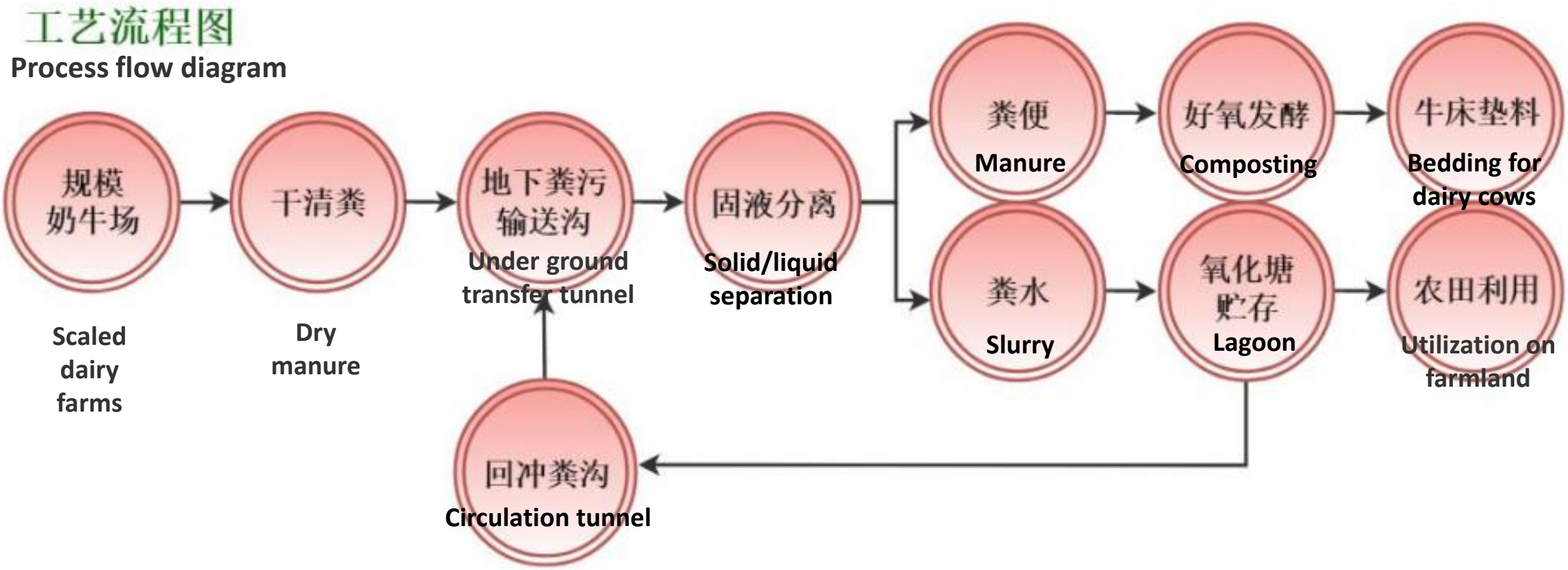
缺点
Disadvantages

- 生产链较长
  Long production chain
- 精细化技术要求高
  Requirements for high-level precise technologies
- 对生产人员整体素质要求高
  Requirements for well-trained operators

适用范围
Conditions for use

- 大中型生态农业企业
  Large- and medium-scale ecological enterprises
- 小型农村家庭生态农场
  Small-scale rural household ecological farms

6 粪便垫料化利用模式
Manure-to-bedding



主推区域：京津沪地区、中东部地区、西南地区和西北地区。

Major regions: Beijing/Tianjin/Shanghai, and Mid-eastern, Southwestern, and Northwestern China.

6 粪便垫料化利用模式
Manure-to-bedding

优点
Advantages

- 减少粪污后续处理难度
  Mitigate the difficulties of post-treatment of manure
- 降低奶牛养殖成本
  Reduce the cost of dairy cow breeding

缺点
Disadvantages

- 垫料可能存在一定的生物安全风险
  Bio-safety risks might exist in the beddings

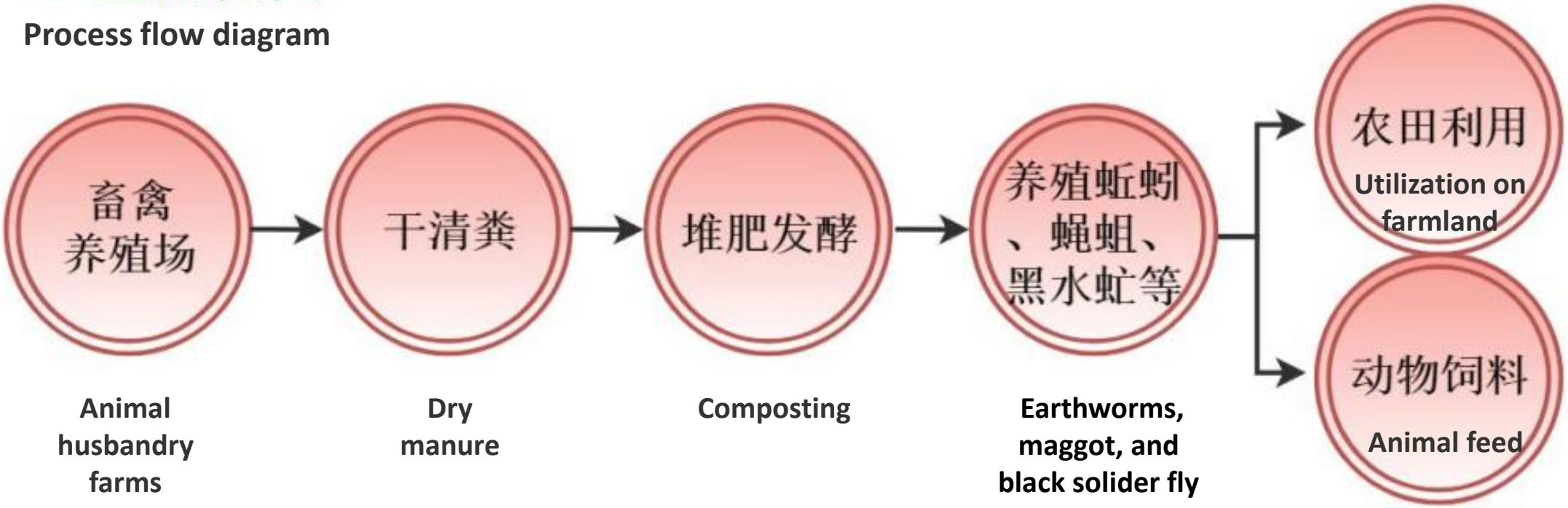
适用范围
Conditions for use

- 规模奶牛场
  Scaled dairy cow farms

7 粪便饲料化利用模式
Manure-to-feeds

工艺流程图

Process flow diagram



主推区域：京津沪地区和中东部地区。

Major regions: Beijing/Tianjin/Shanghai and Mid-eastern China.

7 粪便饲料化利用模式
Manure-to-feed

优点
Advantages

- 资源转化效率高
  High efficiency of utilization of resources
- 无二次排放及污染
  No secondary discharge or pollution
- 实现了生态养殖
  Realization of ecological animal breeding

缺点
Disadvantages

- 对温度、湿度、透气性等环境条件的要求高
  High requirements for environmental conditions such as temperature, humidity, and permeability

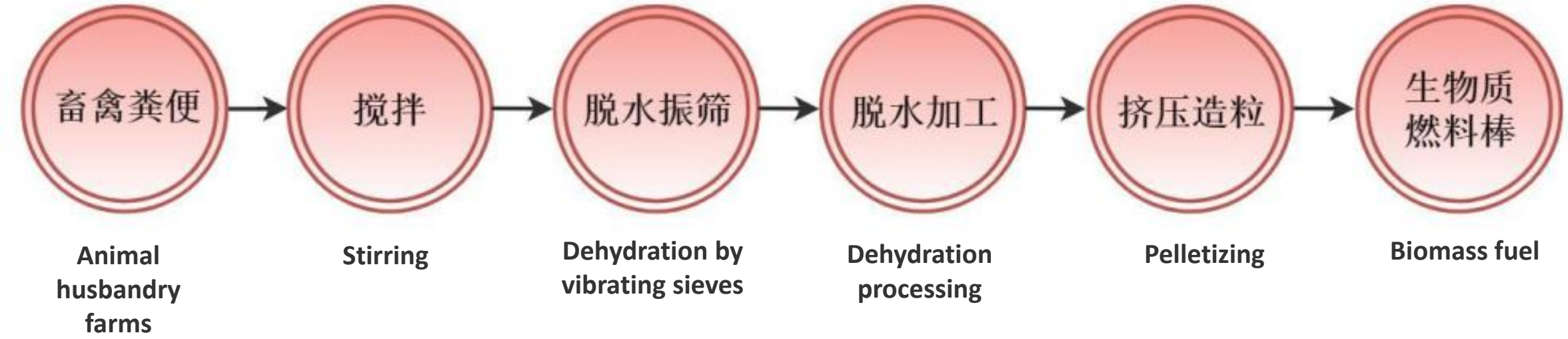
适用范围
Conditions for use

- 养殖场有闲置地
  Spare farmland
- 农副产品较丰富
  Agro-products and byproducts
- 中型、大型规模养殖场
  Mid- and large-scale farms

8 粪便燃料化利用模式
Manure-to-fuel

工艺流程图

Process flow diagram



主推区域：西南地区和西北地区。

Major regions: Southwestern and Northeastern China.

8 粪便燃料化利用模式
Manure-to-fuel

优点
Advantages

- 替代燃煤燃料
  Substitute for coal
- 有效减少二氧化碳和二氧化硫的排放量
  Significant reduction of CO_2 and SO_2 emissions

缺点
Disadvantages

- 粪便脱水干燥能耗较高
  High energy consumption during dehydration of manure

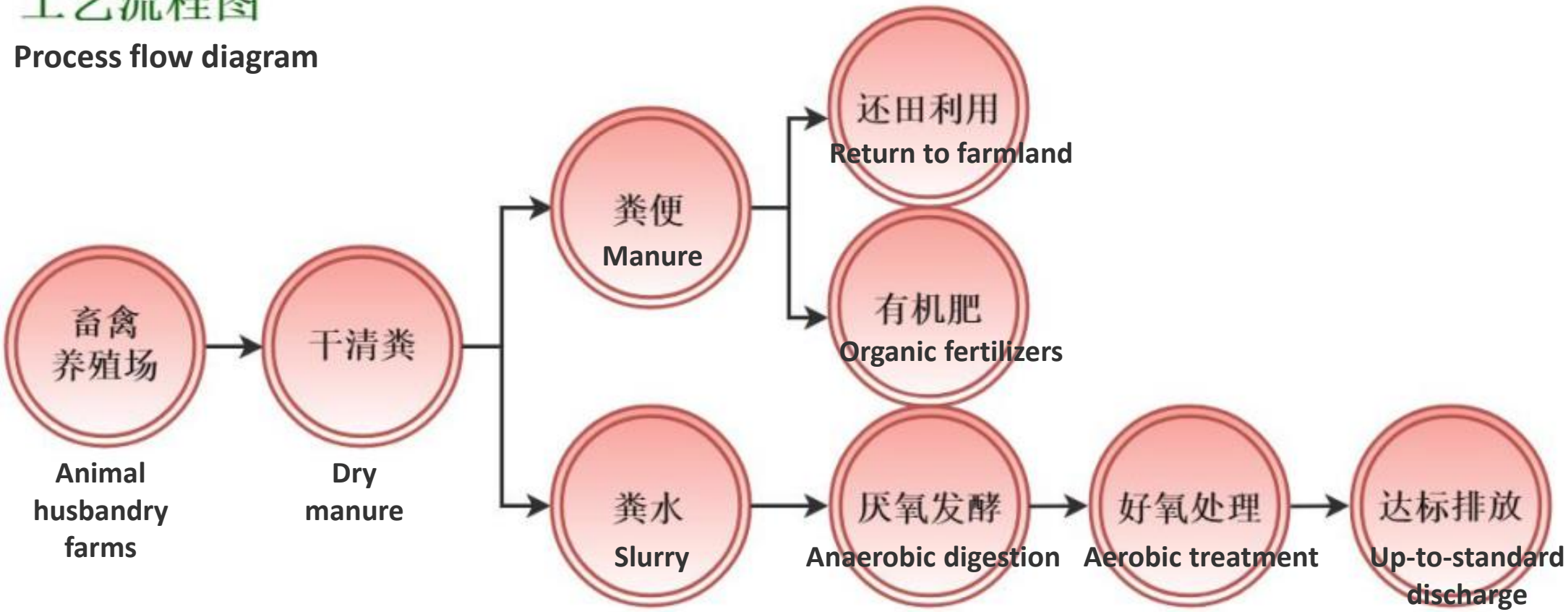
适用范围
Conditions for use

- 城市和工业燃煤需求量较大的地区
  Cities and industries that require a large amount of coal

9 粪水达标排放模式
Up-to-standard discharge of slurry

工艺流程图

Process flow diagram



主推区域：东部沿海地区和中东部地区。

Major regions: Eastern coastal area and Mid-eastern China.

9 粪水达标排放模式
Up-to-standard discharge of slurry

优点 Advantages

- 降低了污染风险
  Reduction of pollution risks
- 减少粪污贮存设施的投入和用地需求
  Reduction of the investment on storage facilities and land needs

缺点 Disadvantages

- 设施设备投入大
  High initial investment on equipment
- 运行期间污水处理成本高、技术要求高
  High cost and high-level technology requirements for wastewater treatment
- 需要专业技术人员
  Requirements for professional operators

适用范围 Conditions for use

- 周围没有配套农田的规模化猪场或奶牛场
  Scaled swine or dairy cow farms without farmland

三 下一步的重点任务
Next steps

General requirements of the rural revitalization strategy

- 乡村振兴，生态宜居是关键。
  Ecological livability is the core of rural revitalization.
- 按照绿色兴农要求，紧紧围绕技术指导和服务，充分发挥好联盟作用，扎实推进粪污资源化利用，为畜牧业绿色发展和美丽中国建设贡献力量。
  According to the requirements of green development of agriculture, the Alliance will pragmatically promote the utilization of manure by focusing on technical guidance and service, which will contribute to the green development of animal husbandry and construction of beautiful China!

三 下一步的重点任务
Next steps

1. 加强技术研发和服务 Strengthen the R&D and service

抓研发 R&D

- 整合产学研企各方面力量
  Integration of R&D and industries
- 开展大联合、大协作
  Great alliance and great collaboration
- 研发一批高效、经济、实用的新技术、新工艺、新装备
  Development of efficient, economical, and pragmatic new technologies, strategies, and equipment.

抓服务 Service

- 聚焦规模养殖场和畜牧大县
  Focus on scaled farms and husbandry counties
- 因场施策、因县施策
  Customize specific policies for different farms and counties
- 提高技术服务的针对性和有效性
  Enhance the pertinence and efficiency of technical service
- 看得懂、学得会、用得上
  Be able to understand, learn, and use

联盟已开展粪污资源化利用技术培训10次，累计培训3000多人次。

The Alliance has held 10 times of technical trainings on manure utilization. More than 3000 people have been well trained.

三 下一步的重点任务
Next steps

2. 完善标准体系
Complete the standardization system

建立养殖废弃物资源化利用标准体系 Establish a standardization system for utilization of animal husbandry wastes				
土地承载力 Land carrying capacity	清洁养殖 Clean animal husbandry	粪便堆肥 Manure composting	水肥一体化 Combination of fertilizing and irrigation	微生物发酵 Microbial fermentation

庄稼一枝花，全靠粪当家
Crops and flowers,
all depend on manures

三 下一步的重点任务
Next steps

现行有效的12项粪污资源化利用有关标准
12 on-going standards for manure utilization

国家标准 National standards	
GB/T 25171-2010 畜禽养殖废弃物管理术语 Animal waste management terminology	GB/T 25169-2010 畜禽粪便监测技术规范 Technical specifications for monitoring of animal manure
GB/T 25246-2010 畜禽粪便还田技术规范 Technology code for land application rates of livestock and poultry manure	GB/T 26622-2011 畜禽粪便农田利用环境影响评价准则 Criteria for environmental impact assessment of the animal manure land application
GB/T 27622-2011 畜禽粪便贮存设施设计要求 Design specifications for animal manure storage facility	GB/T 24875-2010 畜禽粪便中铅、镉、铬、汞的测定 电感耦合等离子体质谱法 Determination of lead, cadmium, chromium, mercury contents in animal manure -Inductively coupled plasma mass spectrometry method
GB/T 26624-2011 畜禽养殖污水贮存设施设计要求 Design specifications for waste water storage facility of animal farm	GB/T 24876-2010 畜禽养殖污水中七种阴离子的测定 离子色谱法 Determination of seven anions in waste water from livestock and poultry farm-Ion chromatography
GB/T 27522-2011 畜禽养殖污水采样技术规范 Technical specifications for waste water sampling of livestock and poultry farm	GB/T 36195-2018 畜禽粪便无害化处理技术规范 Technical specification for sanitation treatment of livestock and poultry manure
行业标准 Industrial standards	
NY/T 1334-2007 畜禽粪便安全使用准则 Regulation regarding the safety using of livestock and poultry manure	NY/T 1169-2006 畜禽场环境污染控制技术规范 Technical criteria for controlling environment pollution of the livestock and poultry farm

三 下一步的重点任务
Next steps

3. 开展试点示范
Promote pilot demonstration

- 组织开展畜牧业绿色发展中国行活动
  Organize nationwide activities on the green development of animal husbandry
  - 已开展7次中国行活动
    7 activities have been successfully held.

- 探索模式，积累经验，让示范点连线成面，成为标杆和榜样
  Explore modes, accumulate experiences, connect the demonstration sites and turn them to lines and areas, and set up role models
  - 种养结合、集中处理等典型技术模式示范基地
    Construction of demonstration bases for typical technologies such as planting-breeding circulating technology and centralized treatment.
  - 生猪粪水异位发酵床等关键技术示范基地
    Construction of demonstration bases for key technologies such as ectopic fermentation beds of swine slurry.

三 下一步的重点任务
Next steps

4. 强化数据监测
Enhance data monitoring

依托规模养殖场直联直报信息系统，配合做好畜禽粪污资源化利用跟踪监测。
Tracing and monitoring of manure utilization processes is conducted by the direct monitoring and reporting information system.

- 重点监测猪、牛、羊、鸡
  Focus on the monitoring of swine, cows, sheep, and chickens
- 定期监测项目实施进度
  Regularly monitor the progress of projects
- 监测规模养殖场粪污处理设施配套情况
  Monitor the manure treatment facilities in scaled farms
- 监测畜禽粪污资源化利用情况
  Monitor the degree of utilization of manure


农业农村部办公厅文件

农办牧〔2018〕28号

农业农村部办公厅关于做好
畜禽粪污资源化利用跟踪监测工作的通知

三 下一步的重点任务
Next steps

5. 注重舆论引导和宣传
Pay attention to the guidance and publicity of public opinions

大力宣传法律法规
Promote the publication of laws and regulations

- 提高守法遵法意识
  Raise the awareness of law-abiding compliance
- 提高保护环境意识
  Raise the awareness of environmental protection

技术模式推介
Recommend and introduce technical modes

- 加强正面宣传引导
  Strengthen the positive publicity and guidance
- 宣传好典型、好案例、好经验
  Promote role models, typical examples, and good experiences

唱响畜牧业绿色发展主旋律
Push forward to promote the theme of green development of animal husbandry

人民日报 每周日出版 第609期 2018年5月27日 星期日 9

农村经济观察

饲料产业体系向绿，现代育种向绿，粪污资源化利用向绿

畜牧业快步转向绿色发展

本报记者 郝静娴

饲料工业大而不强、大而不优——
呼唤建设绿色饲草料生产、加工和经营体系

优质安全的畜产品需求缺口——
呼唤绿色现代育种、科学给药

实现畜禽粪污资源化利用——
呼唤绿色畜牧业全产业链发展方式

2018年5月27日，人民日报
《畜牧业快步转向绿色发展》专题报道
Special report: “The rapid pace turn-over in the green development of animal husbandry”
People’s Daily, May 27, 2018.

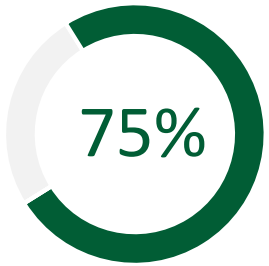
三 下一步的重点任务
Next steps

今年4月17-20日，总站、协会在长沙举办了首届“畜牧业现代化暨畜禽粪污资源化利用”论坛、2018畜牧环保专题展览会等活动。

During April 17th–20th, 2018, the Alliance successfully held the 1st “Modernization of animal husbandry and utilization of livestock and poultry wastes” forum, and the “2018 animal husbandry and environmental protection” exhibition in Changsha, China.

目 标
Goals

- **《国务院办公厅关于加快推进畜禽养殖废弃物资源化利用的意见》**
  “Opinions of the General Office of the State Council on accelerating the utilization of waste resources from livestock and poultry”
- **《乡村振兴战略规划（2018 - 2022年）》**
  “Rural revitalization strategy (2018-2022)”
- **到2020年，建立科学规范、权责清晰、约束有力的畜禽养殖废弃物资源化利用制度，构建种养循环发展机制。**
  By 2020, a scientific and formal regulation will be established for utilization of livestock and poultry wastes, with explicit rights and responsibilities and powerful constraints. Meanwhile, the planting-breeding circulating mechanism will be also developed.



全国畜禽粪污综合利用率（约束性指标）
Nationwide utilization rate of livestock and poultry wastes (constraint index)

规模养殖场粪污处理设施装备配套率
Matching rate of facilities for scaled farms

畜牧大县、国家现代农业示范区、农业可持续发展试验示范区和现代农业产业园**率先实现**。
The goals will be **realized first** in husbandry counties, national modern agricultural demonstration zones, pilot demonstration area for agricultural sustainable development, and modern agricultural industrial parks.

谢 谢

Thanks