

## 陈学庚

### 报告人简介:

陈学庚，2013年当选中国工程院院士，农业机械设计制造专家。新疆农垦科学院农机所原所长、研究员；1990年农业部有突出贡献中青年专家，1996年国家人事部优秀中青年专家；华东交通大学客座教授、机电学院名誉院长。青岛农业大学特聘教授。



陈学庚扎根边疆基层一线，从事农机研究和推广工作46年，长期从事农业机械研究和推广工作，突破了地膜植棉机械化关键技术，攻克了滴灌技术大规模应用农机装备难题，研发了多项棉花生产机械化关键技术与机具。为促成新疆棉花产量两次飞跃提供了有力的农机装备支撑，为新疆棉花生产全程机械化技术研究和大面积推广作出了重大贡献。获国家科技进步一等奖1项，二等奖1项，省部级一等奖5项。获国家专利32项，国家重点新产品9项。

## XueGeng Chen

### Profile of the Author:

Chen Xuegeng, who is an expert in agricultural machinery design and manufacturing, was elected as an academician of the Chinese Academy of Engineering in 2013. He was the previous director and researcher of Agricultural Machinery Institute of Xinjiang Academy of Agricultural Reclamation. In 1990, he was a young and middle-aged expert, who had outstanding contributions to the Ministry of Agriculture. In 1996, he was an outstanding young and middle-aged expert in the National Personnel Department. He also was the Visiting Professor of East China Jiaotong University, the Honorary President of college of Mechanical and Electrical Engineering and the Distinguished Professor of Qingdao Agricultural University.

Chen Xuegeng has been rooted in the grassroots frontiers and engaged in the research and promotion of agricultural machinery for 46 years. He has broken through the key technologies of mechanization of plastic film cotton, overcame the problem of large-scale application of agricultural machinery and equipment in drip irrigation technology, and has developed a number of key technologies and implements of Mechanization of cotton zproduction. In order to promote the two leap in cotton production in Xinjiang, he provided strong supports with agricultural machinery and equipment, and made significant contributions to the whole process of mechanized technology research and large-scale promotion and application for cotton production in Xinjiang. He won a

first prize and a second prize for National Science and Technology Progress Award. He also received the first provincial prize for 5, national patents for 32 and national key new products for 9.

## 我国农业残膜污染现状及治理措施

### 摘要:

地膜覆盖栽培在农业生产中已被广泛应用,我国地膜覆盖种植面积超过 2000 万  $\text{hm}^2$ , 为作物增产增收和保障我国粮食安全提供了重要支撑。随着覆膜年数和覆膜面积的不增加,废旧地膜在土壤中的残留量逐步增多,残膜污染已严重威胁到农业生产和自然环境,成为影响我国农业生产可持续发展的突出问题。报告对现阶段国内外残膜回收技术及装备进行了分析,总结归纳了播前、苗期和秋后收膜的代表机型及其优缺点,最后概述了国外关于农膜回收和治理的政策法规,简述了国家和部分省区的残膜污染治理政策,对目前本领域的研究特点和发展趋势进行了总结和展望,提出了适应我国国情的残膜污染治理技术及方案。

## The Present Situation and Control Measures of Residual Agricultural Membrane Pollution in China

### Abstract:

Plastic film mulching cultivation has been widely used in agricultural production. China's mulching planting area exceeds 20 million  $\text{hm}^2$ , which provides an important support for increasing crop yield and income and protecting food security in China. With the increasing number of years and the area of mulching, the residual amount of waste mulch in the soil is gradually increasing. The residual plastic film pollution has seriously threatened agricultural production and natural environment, and has become a prominent problem affecting the sustainable development of agricultural production in China. The report analyzes the domestic and foreign residual film recycling technology and equipment at the present stage, and summarizes the representative models of pre-sow, seedling and post-autumn film collection, including its advantages and disadvantages. Finally, it outlines the foreign policies and regulations on agricultural film recycling and treatment, which briefly describe the residual film pollution control policies of the state and some provinces or regions. It also summarizes and forecasts the current research characteristics and development trends in this field, and proposes the residual film pollution control technologies and programs adapted to China's national conditions.