the world to formulate rational grain security policies in response to grain crisis and provide scientific basis for the stability of China′s grain security situation and the formulation of grain security strategy.

Keywords　grain production; grain consumption; grain security; relative risk; spatiotemporal patterns; spatial analysis

·书评·

农业高职“双创”教育及管理模式的构建

农业高职院校作为培养新型农业技术技能、农村管理与产业经营等人才的主阵地，其关键与重要使命是推动我国“双创”教育生态系统的稳步形成。农业高职院校要深化教育改革，要在专业教育中有机融入“双创”教学，培养广袤农村紧缺的新型农业农村人才，尤其要加强对“懂农业、爱农村、爱农民”的农村工作队伍、高素质农民队伍、现代青年家庭农场主队伍的培养。如何回应时代发展对新型农业农村人才培养的现实诉求及固化“双创”教育已有成果，《农业高职“双创”教育生态系统》一书为农业高职院校指明了未来发展方向。

该书紧密结合农业职业教育“培养什么人，如何培养人，为谁培养人”的重大理论问题，从厘清“双创”教育的概念入手，基于江苏农牧科技职业学院的实践探索，侧重总结江苏省内高校的实践经验，针对农业高职“双创”教育及管理模式的突出问题，吸收国内外相关理论成果与成功经验，采用扎根理论研究法等科学的研究方法，运用Nvivo软件等现代化研究手段，对研究对象进行了全面、深入、系统研究。

农业高职教育要着重提升学生的创新创业能力，使其知识活用、知识创新，并敢于创新、勇于创业。为此，农业高职“双创”教育及管理模式的构建要基于培养符合时代发展人才的要求。

一是优化“双创”课程体系。农业高职“双创”教育的目的是培养学生创新精神、创业意识和“双创”能力，引导学生充分利用专业知识、技术技能投身“双创”实践，驱动新型农业农村人才的高水平、高质量培养。因此，农业高职院校必须基于专业集群建设与发展，着眼全面提高学生的综合素质，充分考虑专业优势、专业特点及学生就业创业方向、未来发展需求，探明专业教育、“双创”教育、素质教育三者之间的有效切合点，科学设置三者分立、交叉、融合依次递进的课程，并有利于在第一、第二、第三课堂分别、分项实施；构建多层次、多维度、系统化的融合“双创”教育课程体系，优化专业人才培养体系，并采用高效的融合型课程教学方法、实施弹性化课程考核方式；深化“专创融合”教育，大幅度提升学生紧密结合专业的创新创业能力，从根本上提高人才的培养质量，有效促进就业创业，并为落实乡村振兴战略提供人才储备和保障。

二是推进“双创”课程考核改革。“双创”课程是实践导向型课程，其不同于单纯的基础性课程或专业课程，对课程学习效果的考核要坚持导向型原则、客观性原则、适度差别化原则、激励原则，适宜采用弹性化的考核方式，将形成性考核与终结性考核相结合，重在过程性。其中，形成性考核重在平时学生的参与度、认真度及主动性、积极性的发挥程度；终结性考核形式多样，或单项、或综合，或书面、或口试，或单人、或团队，或理论、或实践模拟考核。此外，形成性考核分占70%，终结性考核占30%，两者的分数加权平均后得到课程考核成绩的分数，若是实践课程，再依据分值划分优、良、及格、不及格4个等次。需要特别指出的是，“双创”课程考核评价要坚持激励原则，否则不合理的考核设计和评价将打击学生创新性思维。

三是建立健全教师管理制度。在专业课程体系中深度融入“双创教育”，就意味着对教师的教学能力及学校教学管理等有了更高的要求。农业高职院校要完善教师教学能力培养制度，针对新入职教师、入职后教师、骨干教师分别制定相应培训方案；建立健全教师实践考核制度，鼓励教师

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IMPACT ASSESSMENT OF CHANGES IN SOYBEAN PLANTING STRUCTURE ON WATER AND FARMLAND RESOURCES UNDER AGRICULTURAL POLICY ADJUSTMENT*

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Abstract Food security is being challenged by the COVID-19 pandemic, climate change, population growth, and environmental degradation. Understanding the dynamics of crop planting structure driven by policies and the effect on water and farmland resources are important to address these challenges, which require quantitative evaluation. To provide scientific information for the policy-making of crop planting structure adjustment from the perspective of resource utilization, this paper chose Heilongjiang province as the study area and established a system dynamics model of soybean planting structure in Heilongjiang. Based on the system dynamics model, it simulated the conversion of planting area among soybeans, corn, and rice in Heilongjiang under the subsidy policy for these three crops. Additionally, it calculated the consumption of water and farmland resources in the production of the three crops, and obtained the change in the consumption of water and farmland resources caused by the conversion of planting area among soybeans, corn, and rice under different scenarios of subsidy policy. The results showed that the range of water resources per unit area and farmland resources per unit yield consumption in the production of soybeans, corn, and rice in Heilongjiang from small to large was "soybeans<corn<rice" and "rice <corn<soybeans", respectively. Since soybean consumed the least amount of water per unit area and consumed the most amount of farmland per unit yield, when soybean producer subsidy increased by 40%, the soybean planting area increased the most. Therefore, the consumption of total water resource of the three crops decreased by 24 million m^3, but the consumption of farmland resources only increased by 0.032 million hm^2. In summary, this study reveals that the adjustment of agricultural subsidies can not only meet the overall supply of food, optimize crop planting structure, expand soybean planting area, and then reduce the uncertainty of soybean supply, but also realize the optimal allocation of regional water and farmland resources. Our analysis suggests that the results of this study can provide scientific information for the policy-making under the constraint of optimal allocation of water and farmland resources, and help ensure food security and realize sustainable utilization of water and farmland resources.

Keywords planting structure; policy; water and farmland resources; soybeans; system dynamics

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到企业兼职、挂职或短期实习；建立“双创”教育改革考核制度，将教师和院系实施专业课程教学与“双创”教育改革情况纳入考核体系；完善绩效考核和职称评审制度，将教师开展教学改革情况、“双创”教学成果纳入绩效考核指标体系与教师专业技术职务评聘标准。

总之，农业高职院校应依据其专业人才培养模式，制定科学的“双创”教育管理模式，并顺应时代潮流，深化“双创”教育改革，健全“双创”教育体系，促进农业高职高质量发展，增加新型农业农村人才有效供给。从而培育更多农业方面“双创”人才，使其成为推动乡村振兴战略实施的关键力量。

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