

# Engineered pea seeds protect against parasites

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A breed of pea seeds has been created that contains antibodies against coccidiosis, a disease caused by a parasite that attacks chickens.

Researchers writing in the open access journal *BMC Biotechnology* describe the development of the GM seeds, and demonstrate their effectiveness in preventing this economically important illness.

Sergej Kiprijanov worked with a team of researchers from Novoplant GmbH, Germany, to develop the seeds. He said, "There are a few major issues precluding the use of monoclonal antibodies for passive immunization of chickens against [infectious diseases](#), primarily the costs of antibody production and treatment. Treatment costs are high because antibodies must normally be given intravenously; otherwise they are destroyed in the animal's gut. By expressing the antibodies inside pea seeds, they are protected from this degradation - allowing our system to dramatically reduce treatment costs".

The researchers found that chickens infected with the parasite and allowed to eat the antibody-containing pea seeds, shredded into their feed, were significantly less likely to contract coccidiosis than chickens fed ordinary pea seeds in their fodder. Kiprijanov said, "Compared with methods of active vaccination, the passive immunization strategy described here is an easy and non-invasive method to use in commercial settings. The cost of production is comparatively low, utilizing current agriculture technologies, and the strategy can be used in combination with other antiparasitic agents".

More information: Antibody expressing pea seeds as fodder for prevention of gastrointestinal parasitic infections in chickens; Jana Zimmermann, Isolde Saalbach, Doreen Jahn, Martin Giersberg, Sigrun Haehnel, Julia Wedel, Jeanette Macek, Karen Zoufal, Gerhard Glunder, Dieter Falkenburg and Sergej M Kiprijanov; *BMC Biotechnology* (in press); [www.biomedcentral.com/bmcbiotechnol/](http://www.biomedcentral.com/bmcbiotechnol/)

Source: BioMed Central ([news](#) : [web](#))

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