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Effects of poisonous species on livestock health on the rangeland

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Key words : poisonous species , livestock health , poisonous , toxin

Introduction With the number of the livestock on the grazing lands increasingly , the contradictions are becoming increasingly acute between the livestock and plants . Grazing lands degenerate seriously day by day , poisonous plant species multiplies . Research into the poisonous species effecting on livestock health and knowing the toxicity and mechanism of poisonous plant have great significance on preventing the livestock from poisoning .

Materials and methods For classification of the poisonous plants , we have to find different kinds of poisonous plants in Northeast China . We used these plants to feed the animals , and observe the changes of the animals , as well as the pathological changes .

Table 1 Main poisonous plants in North China .

Family	Genus	Toxicity
Ranunculaceae	<i>Aconitum kusnezoffii</i> Reich	aconitine
	<i>P . chinensis</i> (Bge) Rgl .	anemonin
	<i>R . cymbalaria</i> Pursh	ammonia spirits diterpene
	<i>R . ruthenicus</i> Jacq	pepper wort herb alkaloid
	<i>R . scleratus</i> L .	
Papaveraceae	<i>Ranunculus chinensis</i> Bunge	
	<i>Chelidonium majus</i> L .	diphylline
Fabaceae	<i>Papaver nudicaule</i> L .	alkaloid
	<i>Sophora flavescens</i> Soland	Matrine , oxymatrine
Euphorbiaceae	<i>Swainsonia salsula</i> Taubert	spherosin
	<i>E . pallasi</i> Turcz	chamaejasmine
Thymelaeaceae	<i>E . mandshurica</i> Maxim	Giantmolecule organic acid
	<i>Stellera chamaejasme</i> L .	burschhernin
Umbelliferae	<i>Cicuta virosa</i> L .	cicutoxin
Solanaceae	<i>Hyoscyamus bohemicus</i> F . W . Schmidt	alkaloid
Liliaceae	<i>V . patulum</i> Loesener	steroidal alkaloid

Results and discussion According to incomplete statistics , there are mainly poisonous plants in 16 genera in 9 families in Northeast China , see as in Table 1 . Poisonous plants contain various kinds of alkaloids as follows : 1) The plants contain aconitine and palustrine . It will cause diseases in nervous and digestive systems . Aconitine mainly encroaches on the nervous systems and hearts . It is easy poisoning for the weak livestock and pregnant livestock ; 2) Poisonous plants contain glucoside . Glucoside will cause diseases in organs , nervous systems and hearts . Miserotoxin degrades to 3NPOH in the rumen , after nitropropionic acid glycoside degrades to 3NPA , it will be ingested by enteron then gets into the blood circulation , effecting central nervous systems . The combination between the nitro of chemical and ferrihemoglobin will produce ferrihemoglobin , which has great harm to the livestock . 3) Poisonous plants containing toxic protein . The poisonous plants will damage the parenchymatous organs , hearts , livers , kidneys . These materials lead to parenchymatous degeneration , hemorrhage , necrosis , telangiectasis , vascular permeability higher , extensive bleeding , at last it will die from circulatory failure or respiratory failure . The toxicosis appearances of livestock are similar . 4) Poisonous plants contain giant molecule organic acid . Giant molecule organic acid stimulates the alimentary canal strongly , and causes acute diarrhoea and has some toxin in nervous systems . It also causes leucocyte and platelet to be less , respiratory paralysis , and stimulate skin , at last it can cause an inflammation . 5) Poisonous plants contain Se . Se can restrain atmuungsferment , and have the effects on the metabolism of VC and VK . When the sheep are poisoning , they will be gloomy and die unexpectedly , others have disorderly behavior , fervescence and other states of chaos . So we conclude that there are different poisonous plants containing various toxins on n=North China and the farmers should prevent their animals from foraging more .

Reference

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