

Large Animals Infectious Diseases (3 CFU; 36 hours: lectures, 30 hours; 6 hours of farm visit)

The aims of this course is to enable participants to: acquire knowledge about infectious diseases of large animals and develop skills which would enhance their future professional development; provide students with solid conceptual understanding of infectious diseases of animals and methods of their diagnosis and control; enable students to apply these general and applied concepts about infectious diseases to other related but new or emerging infectious disease which might occur in the future

Lectures

Knowledge and skills	Topics	Specific content	hours
<p>1. PORCINE ENZOOTIC PNEUMONIA (TOT. 4 HOURS) [understanding of the nature of the aetiological agents, the pathogenesis, clinical signs and epidemiology; the important diagnostic features and the most appropriate laboratory diagnostic methods; the most appropriate methods of control of disease including treatment (where it relates to control), the types and use of vaccines]</p>	Etiology and epidemiology	<i>Mycoplasma hyopneumoniae</i> taxonomy; Geographic distribution; economic importance	1
	Pathogenesis	Transmission; epithelium colonization; adaptative immune response	1
	Clinical signs and lesions	Clinical signs in epidemic and endemic forms. Gross lesions and microscopically lesions	1
	Diagnosis, and control	Demonstration of Mhyo in lung tessue; serology; treatment and prevention. Lung score.	1
<p>2. AUJESZKY'S DISEASE (TOT. 3 HOURS) [understanding of the nature of the aetiological agents, the pathogenesis, clinical signs and epidemiology; the important diagnostic features and the most appropriate laboratory diagnostic methods; the most appropriate methods of control of disease, the types and use of vaccines]</p>	Etiology, epidemiology and pathogenesis	SHV-1 genomic organization and gene expression; in vivo and in vitro replication; susceptible species; transmission; shedding persistence in the environment. Virulence factors; latency; immune responses	1
	Clinical signs and lesions	Incubation period; relation between age and clinical signs. Gross lesions and microscopically lesions	1
	Diagnosis, and control	Virus and antibody detection. National control plan.	1
<p>3. PORCINE PARVOVIRUS (TOT. 3 HOURS) [understanding of the nature of the aetiological agents, the pathogenesis, clinical signs and epidemiology; the important diagnostic features and the most appropriate laboratory diagnostic methods; the most appropriate methods of control of disease, the types and use of vaccines]</p>	Etiology and epidemiology	PPV taxonomy, in vivo and in vitro replication; susceptible species; transmission; shedding persistence in the environment. Geographic distribution; economic importance	1
	Pathogenesis, clinical signs and lesions	Transmission, factors affecting the severity of disease. Clinical signs in gilts. Gross lesions and microscopically lesions in foetuses	1
	Diagnosis, and control	Virus and antibody detection. Immunity and vaccination.	1

<p>4. PMWS (TOT. 3 HOURS) [understanding of the nature of the aetiological agents, the pathogenesis, clinical signs and epidemiology; the important diagnostic features and the most appropriate laboratory diagnostic methods; the most appropriate methods of control of disease, the types and use of vaccines]</p>	<p>Etiology and epidemiology</p>	PCV2 taxonomy, in vivo and in vitro replication; susceptible species; persistence in the environment. Geographic distribution; economic importance. Risk factors for PMWS	1
	<p>Pathogenesis, clinical signs and lesions</p>	Transmission; shedding pathogenesis and clinical signs of PMWS. Immunity. Gross lesions and microscopically lesions.	1
	<p>Diagnosis, and control</p>	Virus and antibody detection. Prevention, control and vaccination.	1
<p>5. PRRS (TOT. 3 HOURS) [understanding of the nature of the aetiological agents, the pathogenesis, clinical signs and epidemiology; the important diagnostic features and the most appropriate laboratory diagnostic methods; the most appropriate methods of control of disease, the types and use of vaccines]</p>	<p>Etiology, epidemiology and pathogenesis</p>	PRRSV taxonomy and classification, in vivo and in vitro replication; susceptible species; persistence in the environment. Geographic distribution; economic importance. Risk factors for PRRS. Vertical transmission and transmission within herds pathogenesis of PRRS	1
	<p>Clinical signs and lesions</p>	Clinical signs in sows, boars, suckling pigs, weanling and grower pigs. Factors affecting the severity of disease Gross lesions and microscopically lesions.	1
	<p>Diagnosis and control</p>	Detection of virus and characterization of isolate; detection of antibody. Prevention and control. Vaccination.	1
<p>6. BOVINE PARATUBERCULOSIS (TOT. 6 HOURS) [understanding of the nature of the aetiological agents, the pathogenesis, clinical signs and epidemiology; the important diagnostic features and the most appropriate laboratory diagnostic methods; the most appropriate methods of control of disease]</p>	<p>Etiology,</p>	<i>Mycobacterium avium</i> subsp. <i>paratuberculosis</i> (MAP) taxonomy and classification.	1
	<p>Epidemiology</p>	Geographic distribution; economic importance Source of infection	1
	<p>Pathogenesis</p>	Transmission; shedding, pathogenesis.	1
	<p>Clinical signs and lesions</p>	Clinical signs of paratuberculosis. Gross lesions and microscopically lesions	1
	<p>Diagnosis</p>	Detection of MAP and characterization of isolate; detection of antibody.	1
	<p>Control</p>	Risk factors Prevention and control	1
<p>7. COLIBACILLOSIS (TOT. 4 HOURS) [understanding of the nature of the aetiological agents, the pathogenesis, clinical signs and epidemiology; the important diagnostic features and the most appropriate laboratory diagnostic methods; the most appropriate methods of control of disease including treatment (where it relates to control), the types and use of vaccines]</p>	<p>Etiology and epidemiology</p>	E. coli taxonomy and classification Virulence. Geographic distribution; economic importance Source of infection. Risk factors	1
	<p>Pathogenesis</p>	Transmission; shedding, pathogenesis.	1
	<p>Clinical signs and lesions</p>	Clinical signs in horses, bovine and swine. . Gross lesions and microscopically lesions	1
	<p>Diagnosis, and control</p>	Detection of E. coli and characterization of isolate. Prevention and control	1

<p>8. EQUINE ARTERITIS (TOT. 2 HOURS) [understanding of the nature of the aetiological agents, the pathogenesis, clinical signs and epidemiology; the important diagnostic features and the most appropriate laboratory diagnostic methods; the most appropriate methods of control of disease]</p>	<p>Etiology, epidemiology and pathogenesis</p>	<p>Equine arteritis virus (EAV) taxonomy and classification, in vivo and in vitro replication; susceptible species; persistence in the environment. Geographic distribution; economic importance. Risk factors for EAV infection. Transmission and pathogenesis.</p>	1
	<p>Clinical signs, lesions, diagnosis and control</p>	<p>Clinical signs. Gross lesions and microscopically lesions Diagnosis. Control (Piano nazionale di controllo: O.M. 13/01/1994).</p>	1
<p>9. VETERINARY PUBLIC HEALTH SERVICE (TOT. 2 HOURS) [acquisizione di conoscenze e capacità relative: alle corrette modalità di segnalazione della presenza di malattie infettive notificabili]</p>	<p>Organisation of veterinary public health service in Italy</p>		1
	<p>Disease notification</p>		1
Visit on the Farms			
Knowledge and skills	Topics	Specific content	hours
<p>10. (TOT.6 HOURS)</p>	<p>Farm</p>	Bovine Dairy farm	2
		Swine farm	2
		Bovine farm: collection and transport of samples for direct and indirect diagnosis	2