

Schedule for the course Feed Science and Forage Production (HV0166)

Preliminary

Blue = Together with students from other course (BI1327)

Month	Day	Date	Hour	Place	Content	Lecturer / responsible
March	Wednesday	22	08.15-09.00		<i>Introduction, registration, roll-call, study advice</i>	Nilla Nilsson-Linde, Horacio Gonda & Torsten Eriksson
			09.15-10.00		<i>Introduction, roll-call</i>	Nilla Nilsson-Linde, Horacio Gonda & Torsten Eriksson
			10.15-12.00		Lecture: Introduction - ruminant metabolism and feed analyses	Horacio Gonda & Torsten Eriksson
					Multiple choice test (MCT) 1 opens in Canvas	Open 22 March-30 March
	Thursday	23	13.15-15.00		Lecture: Silage making	Rolf Spöndly
	Friday	24	09.15-12.00		Lecture: Silage quality	Rolf Spöndly
			13.15-16.00		Lecture: Malfermentations	Rolf Spöndly
March	Monday	27	08.15-12.00		Lecture: Plant species utilised and their characteristics	Nilla Nilsson-Linde
			13.15-15.00		Lecture: Crop production and quality dynamics	Anne-Maj Gustavsson
			15.15-16.00		Introduction to group assignment 1: Formulating seed mixtures. Work with group assignment 1	Nilla Nilsson-Linde
	Tuesday	28	10.15-12.00		Lecture: Combining forage species in a seeding mixture	Nilla Nilsson-Linde
			13.15-17.00		Work with group assignment 1 + reading MCT 1	Nilla Nilsson-Linde
	Wednesday	29	08.15-12.00		Work with group assignment 1 + reading MCT 1	
	Thursday	30	09.15-11.00		Lecture and exercise: Ley fertilisation	Pernilla Kvarmo
			11.15-16.00		Work with group assignment 1 + reading MCT 1	Nilla Nilsson-Linde
					MCT 1 closes at midnight	
					Multiple choice test (MCT) 2 opens in Canvas	Open 30 March-18 April

	Friday	31	09.15-10.00		Lecture: Nutrient balances on livestock farms	Eva Salomon
10.15-12.00				Lecture: Organic manure	Eva Salomon	
13.15-16.00				Work with group assignment 1 + reading MCT 1		
17.00				Group assignment 1 - formulation seeding mixtures - deadline for reporting on Canvas		
The week after Easter is free from lessons						
April	Monday	3	09.15-10.00		Lecture: Harvest strategy in a ley	Magnus Halling
			10.15-12.00		Lecture: Maize as a forage crop, Swedish experiences	Magnus Halling
	Tuesday	4	09.15-10.00	Sal Y, Ulls Hus	Introducing laboratory videos and lab manuals	T. Eriksson, A-G. Haglund, H. Gonda
			10.15-12.00	Sal Y, Ulls Hus	Lecture: Sampling, preparation, DM, ash, <i>in vitro</i> digestibility of the organic matter (IVDOM)	Torsten Eriksson
			13.15-14.00	Sal Y, Ulls Hus	Lecture: Fiber analyses & digestibility methods	Torsten Eriksson
			14.15-15.00	Sal Y, Ulls Hus	Introduce simulation Lab 1: Sampling, preparation, DM, ash, and NDF	A-G. Haglund, T. Eriksson
	Wednesday	5	09.15-12.00		Report of Group assignment 1	Nilla Nilsson-Linde & Magnus Halling
	Thursday	6	09.15-11.00	Sal Y, Ulls Hus	Lecture: Carbohydrates	Horacio Gonda
			11:00-12:00	Sal Y, Ulls Hus	Simple exercises (DM, concentrations on fresh and DM, etc)	Horacio Gonda & Torsten Eriksson
	Friday	7			free	
The week after Easter is free from lessons						
April	Monday	17	10.15-12.00	Sal C-212, Biocentrum	Discussion on sample preparation, DM, ash, and NDF calculations and obtained results.	A-G. Haglund, T. Eriksson, H. Gonda
			13.15-15.00	Sal C-212, Biocentrum	Introduction to <i>in sacco</i> incubation method and calculations	Horacio Gonda
	Tuesday	18	8.00-10.00		IVDOM – weighing	A-G Haglund, Camilla A.
			10.15-12.00	Sal Y, Ulls Hus	Complementary discussion on DM, ash, and NDF.	A-G. Haglund
					Hand in results on DM, ash, and NDF.	
					MCT 2 closes at midnight	
	Wednesday	19			Multiple choice test (MCT) 3 opens in Canvas	Open 19 April-22 May

	Thursday	20	8.00-11.00		Group 1; IVDOM incubation starts // Students revise other's calculations	A-G Haglund, Camilla A.
			10.00-13.00		Group 2; IVDOM incubation starts // Students revise other's calculations	A-G Haglund, Camilla A.
			12.00-15.00		Group 3; IVDOM incubation starts // Students revise other's calculations	A-G Haglund, Camilla A.
			14.00-17.00		Group 4; IVDOM incubation starts // Students revise other's calculations	A-G Haglund, Camilla A.
	Friday	21	9.15-11.00	Sal Y, Ulls Hus	Lecture: Ruminant metabolism & research methods	Torsten Eriksson
			11.15-12.00	Sal Y, Ulls Hus	Introduce simulation Lab 2: crude protein and fat.	Torsten Eriksson
			13.00-17.00		Self-study// Students revise other student's calculations; Hand in the revised results/calculations on DM, ash and NDF	
April	Monday	24	09:00-12:00		IVDOM – filtering and ash Groups 1 and 2	A-G Haglund, Camilla A.
			13:00-16:00		IVDOM – filtering and ash Groups 3 and 4	A-G Haglund, Camilla A.
			09.00-16.00		Summing up DM, ash, and NDF. Discussion on crude protein and fat calculations and results (simultaneously with the lab work)	A-G. Haglund, T. Eriksson, H. Gonda
	Tuesday	25	09:15-10:00	Sal Y, Ulls Hus	Lecture: Fat analysis	Jorge André
			10:15-12:00		IVDOM- final weighing and ash (DM) all 4 groups	A-G Haglund, Camilla A.
	Wednesday	26	08:00-10:00		IVDOM- final weighing and ash IVDOM all 4 groups	A-G Haglund, Camilla A.
			10:00-12:00	Sal Y, Ulls Hus	Complementary discussion on DM, ash, NDF, CP and fat.	A-G. Haglund
	Thursday	27	10:00-12:00	Sal C-213, Biocentrum	Lecture: Nitrogen metabolism (ruminants)	Torsten Eriksson
			13:15-15:00	Sal C-213, Biocentrum	Discussion on crude protein (CP) calculations and results	Torsten Eriksson
	Friday	28			Self study/calculations on IVDOM	
May	Monday	1			free	
	Tuesday	2	10:15-11:00	Sal O2, Undervisningshuset	Summing up CP.	T. Eriksson, Anna-Greta Haglund
			10:15-12:00	Sal O2, Undervisningshuset	Summing up fat.	Torsten Eriksson, Jorge A

			13:15-15:00	Sal O2, Undervisningshuset	Lecture: Feed evaluation, diet formulation	Torsten Eriksson	
			15:15-17:00	Sal O2, Undervisningshuset	Feed optimization (Introduction/Excel-Solver)	H. Gonda, T. Eriksson	
					Hand in results on IVDOM, CP and fat.		
Wednesday	3	09.15-11.00			Lecture: Forage for horses. Introduction to Group assignment 3: Forage for horses	Cecilia Müller	
Thursday	4	08:15-10:00	Sal Z, Ulls hus		Lecture: Feed processing in the industry	Aleksandar Vidakovic	
		10:15-12:00			Pelleting and extrusion exercise	Aleksandar Vidakovic	
Friday	5	10:15-12:00	Sal O2, Undervisningshuset		Feed optimization project	T. Eriksson, H. Gonda	
		13:00-17:00			Students revise other student's calculations on IVDOM, CP and fat.		
May	Monday	8	09:15-10:00	Sal O2, Undervisningshuset	Lecture: Monogastric diet formulation	Emma Ivarsson	
			10:15-12:00	Sal O2, Undervisningshuset	Lecture: Monogastric metabolism & research methods	Emma Ivarsson	
			13:15-14:00	Sal O2, Undervisningshuset	Lecture: Carnivore metabolism & research methods	Hanna Palmquist	
					Hand in results on IVDOM, CP and fat		
	Tuesday	9	08:00-17:00		Time for work on the Feed optimization project		
	Wednesday	10	09:15-10:00	Sal O2, Undervisningshuset		Time for questions on Feed optimization project	H. Gonda, T. Eriksson
			10:15-12:00	Sal O2, Undervisningshuset		Lecture: Working in the feed industry	Camilla Knutstedt
	Thursday	11	08:00-17:00			Time for work on the Feed optimization project/ Hand in report on the Feed optimization project	
	Friday	12	10:15-12:00	Sal O2, Undervisningshuset		Presentation of feed optimization	T. Eriksson, H. Gonda
May	Monday	15	09:15-10:00	Sal Y, Ulls hus	Lecture: Feed ethics	Mikaela Lindberg	
			10:15-11:00	Sal Y, Ulls hus	Lecture: Plant defence mechanisms	Horacio Gonda	

			11:00-12:00		Hand in individual discussion on feed analysis// Students revise other student's feed analyses report	
			13.15-16.00		Report of Group assignment 3: Forage for horses	Cecilia Müller
Tuesday	16		08.15-12.00		Field exercises:Species characteristics (not mandatory for Plant & Soil students)	Nilla Nilsson-Linde
			13.15-15.00		Lecture: Determination of botanical composition – weaknesses and possibilities	David Parsons
Wednesday	17		09.15-11.00		Species characteristics – test (not mandatory for Plant & Soil students)	Nilla Nilsson-Linde
Thursday	18				Ascension Day	
Friday	19				Free	
May	Monday	22	08.00-12.00	Study visit	Farm visit Östanå Farm – organic milk production	Henrik Johansson, Nilla Nilsson-Linde & Torsten Eriksson
			13:15-15:00	Study visit	AgriLab, Gunsta, commercial lab	T. Eriksson, H. Gonda
					MCT 3 + 4 close at midnight	
	Tuesday	23	08.30-10.00	Lab, HUV	Exercise on forage quality – Group A	Rolf Spörndly
			10.30-12.00	Lab, HUV	Exercise on forage quality – Group B	Rolf Spörndly
			13.15-15.00		Discussion on silage making and big bale silage	Rolf Spörndly
	Wednesday	24	08:15-10:00		Students revise other student's feed analyses report	
			10:15-12:00	Sal Y, Ulls hus	Time for questions	T. Eriksson, H. Gonda
					Hand in feed analyses report	T. Eriksson, H. Gonda
	Thursday	25	08:15-11:00		Discussion of feed analyses results	T. Eriksson, H. Gonda
11:15-12:00			Sal C212, Biocentrum	Course evaluation	H. Gonda, T. Eriksson	
Friday	26		08:15-17:00		Individual study	
May	Monday	29	09:15-10:00	Sal Q, Ulls hus	Time for questions (individual study)	H. Gonda, T. Eriksson

			13:00-15:00		Study visit feed factory (pending on confirmation)	C. Knutstedt, T. Eriksson, H. Gonda
	Tuesday	30	08:15-17:00		Individual study	
	Wednesday	31	08:15-17:00		Individual study	
June	Thursday	1	08.00-12.00	Ultuna Campus	Final examination	

August	Friday	25	08.00-12.00	Ultuna Campus	Time to redo the written examination	
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