

Документ подписан простой электронной подписью
Информация о владельце:
ФИО: Шепелёв Сергей Дмитриевич
Должность: И.о. ректора
Дата подписания: 09.06.2025 12:33:40
Уникальный идентификатор ключа:
178d23810fc848cf204a195933dbf95c20d0188b

МИНИСТЕРСТВО СЕЛЬСКОГО ХОЗЯЙСТВА РОССИЙСКОЙ ФЕДЕРАЦИИ
федеральное государственное бюджетное образовательное учреждение высшего образования
«ЮЖНО-УРАЛЬСКИЙ ГОСУДАРСТВЕННЫЙ АГРАРНЫЙ УНИВЕРСИТЕТ»



УТВЕРЖДАЮ
И.о. ректора ФГБОУ ВО
Южно-Уральский ГАУ

С.Д. Шепелёв
« 9 » июня 2025г.

РАБОЧАЯ ПРОГРАММА ДИСЦИПЛИНЫ

2.1.2 Иностранный язык

Научная специальность – **4.2.4. Частная зоотехния, кормление, технологии приготовления кормов и производства продукции животноводства**

Форма обучения – **очная**

Троицк
2025

Рабочая программа дисциплины «Иностранный язык» (Английский язык) составлена в соответствии с требованиями Федеральных государственных требований (ФГТ), утвержденных приказом Министерства науки и высшего образования Российской Федерации от 20.10.2021 г. № 951. Рабочая программа дисциплины предназначена для подготовки научных и научно-педагогических кадров в аспирантуре по научной специальности **4.2.4. Частная зоотехния, кормление, технологии приготовления кормов и производства продукции животноводства.**

Дисциплина «Иностранный язык» (Английский язык) направлена на подготовку к сдаче кандидатского экзамена.

Настоящая рабочая программа дисциплины составлена в рамках программы аспирантуры и учитывает особенности обучения при инклюзивном образовании лиц с ограниченными возможностями здоровья и инвалидов.

При изучении дисциплины «Иностранный язык» (Английский язык), при проведении текущего контроля успеваемости и промежуточной аттестации аспирантов университет вправе применять электронное обучение, дистанционные образовательные технологии.

Составитель – кандидат педагогических наук, доцент

Нестерова С.А.

Рабочая программа дисциплины обсуждена на заседании кафедры «Социально-гуманитарные дисциплины и русский язык как иностранный» «5» мая 2025 г., протокол № 1.

Зав. кафедрой «Социально-гуманитарные дисциплины и русский язык как иностранный»



Нестерова С.А.

Рабочая программа дисциплины одобрена Методической комиссией ФГБОУ ВО Южно-Уральский ГАУ по программам аспирантуры «19.05. 2025 г., протокол № 1.

Председатель методической комиссии



Нагорных Е.Е.

Директор Научной библиотеки



Шатрова И.В.

СОДЕРЖАНИЕ

1.	Планируемые результаты освоения дисциплины.....	4
1.1.	Цель и задачи дисциплины.....	4
1.2.	Планируемые результаты освоения дисциплины, обеспечивающие освоение программы аспирантуры по научной специальности.....	4
2.	Объем дисциплины и виды учебной работы.....	4
2.1.	Распределение объема дисциплины по видам учебной работы.....	4
2.2.	Распределение учебного времени по темам.....	5
3.	Структура и содержание дисциплины.....	5
3.1.	Содержание дисциплины.....	5
3.2.	Содержание лекций.....	6
3.3.	Содержание практических занятий.....	6
3.4.	Виды и содержание самостоятельной работы.....	7
3.4.1.	Виды самостоятельной работы.....	7
3.4.2.	Содержание самостоятельной работы.....	7
4.	Фонд оценочных средств для проведения текущего контроля и промежуточной аттестации.....	7
5.	Основная и дополнительная учебная литература, необходимая для освоения дисциплины.....	7
6.	Учебно-методические материалы по освоению дисциплины.....	8
7.	Ресурсы информационно-телекоммуникационной сети «Интернет», информационно-справочные системы, профессиональные базы данных, используемые при осуществлении образовательного процесса по дисциплине.....	8
.	Материально-техническая база, необходимая для осуществления образовательного процесса по дисциплине.....	8
	Приложение №1. Фонд оценочных средств для текущего контроля успеваемости и проведения промежуточной аттестации аспирантов по дисциплине.....	10

1. Планируемые результаты освоения дисциплины

1.1. Цель и задачи дисциплины

Цель дисциплины - формирование у аспирантов навыков владения иностранным языком как средством профессиональной и межкультурной коммуникации в научно-исследовательской деятельности.

Основные задачи дисциплины:

- совершенствование речевых умений и языковых навыков в устной и письменной формах;
- развитие познавательных и исследовательских умений с использованием иностранного языка на основе информационно-коммуникационных технологий;
- развитие навыков поиска и оценки информации на иностранном языке;
- формирование навыков использования языковых средств при создании письменного и устного научного текста на иностранном языке;
- увеличение запаса лексических единиц общего, терминологического и профессионального характера.

1.2. Планируемые результаты освоения дисциплины, обеспечивающие освоение программы аспирантуры по научной специальности

В результате освоения дисциплины аспирант должен:

Знать:	1. стилистические особенности представления результатов научной деятельности в устной и письменной форме на иностранном языке;
	2. методы и технологии научной коммуникации на иностранном языке;
Уметь:	1. следовать основным нормам, принятым в научном общении на иностранном языке;
	2. подбирать источники и подготовить научные доклады и презентации на иностранном языке;
Владеть:	1. различными методами, технологиями и типами коммуникаций при осуществлении профессиональной деятельности на иностранном языке;
	2. навыками анализа научных текстов на иностранном языке.

2. Объем дисциплины и виды учебной работы

Дисциплина изучается во 2 семестре. Общая трудоемкость дисциплины распределяется по основным видам учебной работы в соответствии с учебным планом, утвержденным Ученым советом ФГБОУ ВО Южно-Уральский ГАУ.

2.1. Распределение объема дисциплины по видам учебной работы

Вид учебной работы	Количество часов / ЗЕТ
Контактная работа, всего	108/3
В том числе:	
Лекции (Л)	36/1
Практические занятия (ПЗ)	72/2
Самостоятельная работа (СР)	72/2
Контроль	-
Общая трудоемкость	180/5

2.2. Распределение учебного времени по темам

№ п/п	Наименование тем	Всего, час	в том числе			
			контактная работа		СР	контроль
			Л	ПЗ		
1.	Университет: обучение в аспирантуре, научно-исследовательская работа.	18	4	6	8	-
2.	Написание научно-исследовательской работы. Цели и задачи научного исследования.	18	4	6	8	-
3.	Методы научного исследования.	16	2	6	8	-
4.	Основы перевода научной литературы.	18	4	6	8	-
5.	Презентация по теме научного исследования.	28	4	16	8	-
6.	Работа с научной литературой. Аннотация научной статьи.	36	6	20	10	-
7.	Академическое письмо.	24	6	6	12	-
8.	Академическое общение.	22	6	6	10	-
	Контроль	-	-	-	-	-
	Общая трудоемкость	180	36	72	72	-

3. Структура и содержание дисциплины

3.1. Содержание дисциплины

Освоение программы аспирантуры по научной специальности. Послевузовские программы и учёные степени. Виды программ в послевузовском образовании. Подготовка диссертации на соискание ученой степени. Стратегии предварительного написания научной исследовательской работы: введение в исследовательскую работу, определение темы исследования, определение цели и задач, выбор методов исследования, проведение эксперимента. Основы научного перевода. Лексико-грамматические и стилистические особенности жанров научного стиля. Академическое письмо. Академическое общение. Устные выступления. Презентация.

Чтение. Виды чтения: изучающее, ознакомительное, поисковое и просмотровое. Подбор аутентичной литературы на английском языке по своей научной специальности; перевод, аннотирование и анализ прочитанных источников; составление тематических глоссариев.

Лексика. Лексический запас - не менее 5500 лексических единиц с учетом вузовского минимума и потенциального словаря, включая примерно 500 терминов профилирующей специальности.

Грамматика. Порядок слов в предложении. Сложное предложение: сложносочиненное и сложноподчиненное предложения. Видовременные формы активного залога. Видовременные формы пассивного залога. Функции инфинитива: инфинитив в функции подлежащего, определения, обстоятельства. Причастие I и его функции. Причастие II и его функции. Герундий и его функции. Модальные глаголы и их эквиваленты.

Письмо. Составление плана (конспекта) прочитанного, изложение содержания, прочитанного в форме аннотации. Написание реферата по прочитанному и переведенному материалу. Описание собственной научной работы.

Перевод. Устный и письменный перевод с иностранного языка на родной язык и с родного на иностранный используется как средство овладения иностранным языком, как прием развития умений и навыков чтения, как наиболее эффективный способ контроля полноты и точности понимания.

3.2. Содержание лекций

№ п/п	Темы лекций	Кол-во часов
1.	Классификация и характеристика научных текстов. Лексико-грамматические особенности перевода научных текстов.	4
2.	Приемы и способы перевода научной литературы. Эквивалентность и адекватность перевода.	4
3.	Перевод научной литературы как система. Системный подход. Типология переводческих ошибок.	4
4.	Основы научного перевода: переводческие трансформации, контекстуальные замены, многозначность лексики.	4
5.	Видовременная система английского глагола. Активный залог.	4
6.	Видовременная система английского глагола. Пассивный залог.	4
7.	Академическое письмо.	4
8.	Специфика работы с научной литературой. Лексико-грамматические и стилистические особенности жанров научного стиля изложения в устной и письменной формах.	4
9.	Аннотирование научных статей.	4
	Итого:	36

3.3. Содержание практических занятий

№ п/п	Темы практических занятий	Кол-во часов
1.	Обучение в аспирантуре. Проведение научных исследований. Порядок слов в английском предложении.	8
2.	Методы научного исследования. Видовременные формы действительного залога.	8
3.	Презентация научного исследования. Видовременные формы страдательного залога.	8
4.	Написание кандидатской диссертации. Модальные глаголы и их эквиваленты.	6
5.	Аннотирование текстов по научной специальности. Инфинитив и его функции. Инфинитивные конструкции.	8
6.	Реферирование. Причастие I и его функции. Причастие II и его функции.	6
7.	Академическое письмо. Герундий, его формы и функции.	6
8.	Академическое общение. Лексико-грамматические и стилистические особенности жанров научного стиля. Перевод сокращений.	6
9.	Перевод научной литературы по своей научной специальности.	16
	Итого:	72

3.4. Виды и содержание самостоятельной работы

3.4.1. Виды самостоятельной работы

Виды самостоятельной работы	Количество часов
Подготовка к практическим занятиям	30
Самостоятельное изучение отдельных тем и вопросов	30
Подготовка к экзамену	12
Итого	72

3.4.2. Содержание самостоятельной работы

№ п/п	Темы самостоятельной работы	Кол-во часов
1.	Проведение научных исследований в аспирантуре. Грамматика: порядок слов в английском предложении.	10
2.	Задачи и цели научного исследования. Грамматика: видовременные формы действительного залога.	6
3.	Презентация по теме научного исследования. Грамматика: видовременные формы страдательного залога.	14
4.	Кандидатская диссертация: определение цели и задач, выбор методов исследования, проведение эксперимента. Грамматика: модальные глаголы и их эквиваленты.	8
5.	Составление аннотаций по научным текстам. Грамматика: инфинитив и его функции; инфинитивные конструкции.	6
6.	Реферирование научных текстов. Грамматика: причастие I и его функции; причастие II и его функции.	6
7.	Академическое письмо. Грамматика: герундий, его формы и функции.	6
8.	Академическое общение. Изучение особенностей жанров научного стиля.	4
9.	Перевод научной литературы по своей научной специальности.	12
	Итого:	72

4. Фонд оценочных средств для проведения текущего контроля и промежуточной аттестации

Для установления соответствия уровня подготовки аспирантов требованиям Федеральных государственных требований фонд оценочных средств разработан для текущего контроля успеваемости и проведения промежуточной аттестации аспирантов по дисциплине. Фонд оценочных средств представлен в Приложении №1.

5. Основная и дополнительная учебная литература, необходимая для освоения дисциплины

Основная и дополнительная учебная литература имеется в Научной библиотеке и электронной информационно-образовательной среде ФГБОУ ВО Южно-Уральский ГАУ.

Основная

1. Басова, О. В. Английский язык для аспирантов и соискателей естественно-научных специальностей : учебное пособие : [16+] / О. В. Басова, О. С. Дворжец. – Омск : Омский государственный университет им. Ф.М. Достоевского (ОмГУ), 2019. – 138 с. – Режим доступа: по подписке. – URL: <https://biblioclub.ru/index.php?page=book&id=613822>
2. Белоусова, А. Р. Английский язык для студентов сельскохозяйственных вузов : учебник для вузов / А. Р. Белоусова, О. П. Мельчина. — 9-е изд., стер. — Санкт-Петербург : Лань, 2024. — 352 с. — ISBN 978-5-507-51965-1. — Текст : электронный // Лань : электронно-библиотечная система. — URL: <https://e.lanbook.com/book/434129>

Дополнительная

1. Анненкова, А. В. English for Masters : учебное пособие / А. В. Анненкова. — Иркутск : Иркутский ГАУ, 2019. — 106 с. — Текст : электронный // Лань : электронно-библиотечная система. — URL: <https://e.lanbook.com/book/133352>
2. Деловой иностранный язык (английский) : учебное пособие / составители Е. А. Красильщик [и др.]. — пос. Каратаево : КГСХА, 2016. — 38 с. — Текст : электронный // Лань : электронно-библиотечная система. — URL: <https://e.lanbook.com/book/133522>
3. Климова, И. И. Английский язык : учебное пособие / И. И. Климова, Н. М. Лизунова, А. Ю. Широких. — Москва : Финансовый университет, 2016. — 128 с. — ISBN 978-5-7942-1375-1. — Текст : электронный // Лань : электронно-библиотечная система. — URL: <https://e.lanbook.com/book/208319>

6. Учебно-методические материалы по освоению дисциплины

Учебно-методические разработки имеются в Научной библиотеке и электронной информационно-образовательной среде ФГБОУ ВО Южно-Уральский ГАУ:

1. Методические указания по английскому языку для магистрантов и аспирантов всех направлений подготовки очной и заочной форм обучения для активизации самостоятельной работы в процессе обучения [Электронный ресурс] / сост. О. И. Халупо; Южно-Уральский ГАУ, Институт агроинженерии - Челябинск: Южно-Уральский ГАУ, 2019. – 39 с. - Доступ из локальной сети: <http://nb.sursau.ru:8080/localdocs/lang/86.pdf>
2. Тесты по английскому языку для магистрантов и аспирантов всех направлений подготовки очной и заочной форм обучения для формирования и контроля лексических и грамматических навыков [Электронный ресурс] / сост. О. И. Халупо; Южно-Уральский ГАУ, Институт агроинженерии - Челябинск: Южно-Уральский ГАУ, 2019. - 54 с. - Доступ из локальной сети: <http://nb.sursau.ru:8080/localdocs/lang/87.pdf>

7. Ресурсы информационно-телекоммуникационной сети «Интернет», информационно-справочные системы, профессиональные базы данных, используемые при осуществлении образовательного процесса по дисциплине

В Научной библиотеке с терминальных станций предоставляется доступ к базам данных:

1. Единое окно доступа к учебно-методическим разработкам <https://юургау.рф>
2. ЭБС «Лань» <http://e.lanbook.com/>
3. Университетская библиотека online: <http://biblioclub.ru>
4. Научная электронная библиотека <https://elibrary.ru/>

8. Материально-техническая база, необходимая для осуществления образовательного процесса по дисциплине

Перечень учебных лабораторий, аудиторий, компьютерных классов:

Учебные аудитории для проведения занятий семинарского типа, групповых и индивидуальных консультаций, текущего контроля и промежуточной аттестации № 401, 405, 417.

Перечень основного учебно-лабораторного оборудования:

Ноутбук LENOVO G5045-1 шт.(переносной);

Магнитофон MP3 MAXWELL MW-4002-1шт. (переносной);

Телевизор «Samsung» - 1 шт.(ауд 401);

DVD-плеер «Mystery» - 1 шт.(переносной).

ФОНД ОЦЕНОЧНЫХ СРЕДСТВ

для текущего контроля успеваемости и проведения промежуточной аттестации
аспирантов по дисциплине

2.1.2. ИНОСТРАННЫЙ ЯЗЫК (Английский язык)

1. Контролируемые результаты освоения дисциплины, обеспечивающие достижения планируемых результатов освоения программы аспирантуры по научной специальности

В результате освоения дисциплины аспирант должен:

Знать:	1. стилистические особенности представления результатов научной деятельности в устной и письменной форме на иностранном языке;
	2. методы и технологии научной коммуникации на иностранном языке;
Уметь:	1. следовать основным нормам, принятым в научном общении на иностранном языке;
	2. подбирать источники и подготовить научные доклады и презентации на иностранном языке;
Владеть:	1. различными методами, технологиями и типами коммуникаций при осуществлении профессиональной деятельности на иностранном языке;
	2. навыками анализа научных текстов на иностранном языке.

2. Оценочные средства для проведения текущего контроля успеваемости и промежуточной аттестации

Оценочные средства представляют собой фонд заданий, а также описаний форм и процедур, предназначенных для определения степени сформированности результатов обучения аспиранта по дисциплине.

К **оценочным средствам** результатов обучения относятся:

2.1. Устный опрос

Устный опрос – диалог преподавателя с аспирантом, цель которого – систематизация и уточнение имеющихся у него знаний, проверка его индивидуальных возможностей усвоения материала.

Виды заданий

Задание 1. Чтение и письменный перевод со словарем отрывка из научного текста по своей научной специальности.

Задание 2. Чтение без словаря и аннотирование отрывка из научного текста по своей научной специальности.

Задание 3. Чтение без словаря и рецензирование отрывка из научного текста по своей научной специальности.

Задание 4. Просмотровое чтение отрывка научного текста по своей научной специальности и передача его содержания на русском языке.

Задание 5. Представление доклада на научной конференции по своей научной специальности.

Задание 6. Ответы на вопросы по теме научного исследования.

Задание 7. Беседа с преподавателем по теме научного исследования.

Оценка (балл)	Критерии оценивания
5 (отлично)	Аспирант продемонстрировал очень хорошее умение пользоваться иностранным языком как средством профессионального общения в научной сфере: очень хорошее владение нормами изучаемого языка и правильное использование их во всех видах речевой коммуникации, в научной сфере в форме устного и письменного сообщения; очень хорошее владение подготовленной монологической речью, а также неподготовленной монологической и диалогической речью в ситуации общения в пределах программных требований; отсутствие затруднений при чтении

Оценка (балл)	Критерии оценивания
	оригинальной литературы по специальности; очень хорошие навыки поискового и просмотрового чтения; умение максимально точно и адекватно извлекать основную информацию, содержащуюся в тексте, проводить обобщение и анализ основных положений предъявленного научного текста для последующего перевода на язык обучения
4 (хорошо)	Аспирант продемонстрировал в целом хорошее умение пользоваться иностранным языком как средством профессионального общения в научной сфере: хорошее владение нормами изучаемого языка и в целом правильное использование их во всех видах речевой коммуникации, в научной сфере в форме устного и письменного общения; хорошее владение подготовленной монологической речью, а также неподготовленной монологической и диалогической речью в ситуации официального общения в пределах программных требований; незначительные затруднения при чтении оригинальной литературы по специальности, навыки языковой и контекстуальной догадки; хорошие навыки просмотрового чтения; умение достаточно точно и адекватно извлекать основную информацию, содержащуюся в тексте, проводить обобщение и анализ отдельных положений предъявленного научного текста для последующего перевода на язык обучения
3 (удовлетворительно)	Аспирант продемонстрировал посредственное умение пользоваться иностранным языком как средством профессионального общения в научной сфере; посредственное владение нормами изучаемого языка и отсутствие умения их использования в речевой коммуникации, в научной сфере в форме устного и письменного общения; посредственное владение подготовленной монологической речью, а также неподготовленной монологической речью в ситуации официального общения в пределах программных требований; недостаточная содержательность и логичность; очевидные затруднения при чтении оригинальной литературы по специальности; отсутствие основных страноведческих и профессиональных знаний, навыков языковой и контекстуальной догадки; посредственные навыки просмотрового чтения; недостаточное умение извлекать основную информацию, содержащуюся в тексте, проводить обобщение и анализ основных положений предъявленного научного текста для последующего перевода на язык обучения
2 (неудовлетворительно)	Аспирант продемонстрировал неумение пользоваться иностранным языком как средством профессионального общения в научной сфере: отсутствие владения нормами изучаемого языка и полное неумение их использования в речевой коммуникации; отсутствие владения монологической и диалогической речью в ситуации официального общения в пределах программных требований; неумение строить логичное, связное, содержательно и структурно завершенное, нормативное высказывание, отвечающее требованиям содержательности в соответствии с коммуникативным намерением; полное отсутствие умений и навыков чтения оригинальной

Оценка (балл)	Критерии оценивания
	литературы по специальности; полное отсутствие страноведческих и профессиональных знаний, навыков языковой и контекстуальной догадки; полное отсутствие навыков просмотрового чтения; неумение извлекать основную информацию, содержащуюся в тексте, проводить обобщение и анализ основных положений предъявленного научного текста для последующего перевода на язык обучения

Text 1 Postgraduate study

Postgraduate study is an opportunity to study your chosen subject in more depth and enhance your career. There are some important factors to consider when choosing a course and deciding when to go back into higher education (HE).

Why do you want to do further study?

Before you decide to do postgraduate study, consider your motives and decide what it is you want to achieve. People do further study for a number of reasons including an interest in the subject, to gain a career advantage, or because it is necessary for entry or advancement in a particular occupation.

Will you enjoy it?

Research all your options to find the right one for you. Look at the prospectus, visit the institution and talk to the tutors to see if the subject matter, teaching styles and research methods will suit you. If you're considering a research post such as a PhD, talk to current doctoral students about their experiences, and make sure you get on with your proposed supervisor before you agree to the post.

Can you afford it?

Further study can be very expensive but funding may be available in the form of government loans, scholarships, bursaries, research council grants or employer sponsorship. Additionally, many universities offer alumni discounts.

For those domiciled in England, there is a new postgraduate government loan scheme for masters courses. Loans are available for full-time, part-time and distance learning courses.

In Northern Ireland, new postgraduate funding will be available from 2017 onwards. The Scottish and Welsh governments are considering introducing similar schemes but details are yet to be finalised and for now, the existing funding arrangements continue to be available.

Eligibility criteria, including details of nationality, residency, age and previous study, apply to all postgraduate loans.

If you are planning on studying for a separate postgraduate course immediately after completing your undergraduate degree you should contact the award making body that funded your first programme of study. If you have worked or taken time out after your first degree you should contact the award making body where you are ordinarily resident.

Before getting a loan, assess whether you will be able to pay it back after you graduate. The English postgraduate loan scheme has to be repaid at the same time as the undergraduate loan.

PhD loans of up to £25,000 have also been announced by the government for 2018. Anyone considering a PhD should fully research the current funding possibilities such as studentships and research council grants.

Will it improve your career prospects?

Further study can demonstrate enhanced technical and transferable skills and a commitment to your subject, for some careers it may even be a requisite. However, don't assume that a higher qualification will automatically help you get into your chosen career; some graduate employers look more

favourably on experience than additional qualifications. Postgraduate qualifications may increase long-term earnings, but they do not usually merit higher starting salaries.

Is it necessary to get into your chosen occupation?

The usual path into many careers, such as teaching, law, social work and librarianship, involves a professional postgraduate qualification. However, in recent years, career routes have diversified so you may be able to enter these roles with a range of alternative qualifications. Therefore, if you are considering further study in order to join a particular profession, research all the routes into your chosen role before choosing the best one for you.

Will it buy you some time?

Whether you want more time to decide what to do or you think the job market may be better after you finish a postgraduate course, don't just use postgraduate study as an excuse to procrastinate. You need to think about what the benefits are of doing a particular programme, and what your priorities are for getting work experience and getting contacts along the way.

Can you build useful networks?

Networking is a crucial element of career development. Make sure you choose a postgraduate course that gives you wide access to professionals in your chosen field.

Will it help you change your career?

Further study might be advisable if you want to get into a career that isn't linked to your degree, or if you have started work and want to move into a new field. You could do a wide range of courses, such as a masters, a conversion course or a PhD. However, be aware that the majority of graduate employers do not require a specific degree or further qualifications. So before you take such a major step, make sure that your new qualification will enhance your opportunities. Conversion courses can be very useful for graduates with general degrees who wish to take a vocational direction such as law or psychology.

If a course requires up-to-date knowledge and skills, there is a clear advantage to signing up immediately after your undergraduate degree. This will ensure you don't get out of the habit of studying. Immediate postgraduate study could help you in your career by giving you a unique selling point in your job applications, refocusing your skills or providing you with a professional qualification. On a personal note, it will probably involve less turmoil at this stage if you just carry on with your studies rather than uprooting yourself mid-career.

After a break

The main reason for taking a break before postgraduate study is that you will gain important skills and experience that will help to maximise the impact of your new qualification. Whether you take time out from your studies to work or travel, it will give you a chance to improve your CV and make yourself more attractive to employers. Some postgraduate qualifications, such as social work or some MBAs, require a minimum period of employment experience before you can even start the course. The personal advantages to taking a break are that you will be refreshed and you can save up some money to fund your studies.

While you are working

Many graduates continue in some sort of education/training even when they have found work. You could study during the evenings and weekends or your employer may allow you to take study leave. Studying and working simultaneously will enable you to put theory into practice and will help you to develop your career. However, it can be very tiring, especially if you have other commitments, so you will need to be motivated and enthusiastic if you are going to succeed.

Mid-career break

This is an option if you want to take a further qualification to progress in your career or enter a new field. Make sure that the qualification you are considering will be beneficial before you hand in your notice at work. The advantage of this option is that you can save up the money you need and will have a range of skills to bring to the course and your future career. On the other hand, you have to ask yourself if you can afford to live without your salary and if you will have the energy and opportunity to reinvigorate your career once you have finished your study.

Text 2

How to write a research abstract

Research abstracts are used throughout the research community to provide a concise description about a research project. It is typically a short summary of your completed research. If done well, it makes the reader want to learn more about your research. Some students present their research findings at local and national conferences. Research abstracts are usually requested as part of the application process for conference presenters. These are the basic components of an abstract in any discipline:

1) Motivation/problem statement: Why do we care about the problem? What practical, scientific, theoretical or artistic gap is your research filling?

2) Methods/procedure/approach: What did you actually do to get your results? (e.g. analyzed 3 novels, completed a series of 5 oil paintings, interviewed 17 students)

3) Results/findings/product: As a result of completing the above procedure, what did you learn/invent/create?

4) Conclusion/implications: What are the larger implications of your findings, especially for the problem/gap identified in step 1?

However, it's important to note that the weight accorded to the different components can vary by discipline. For models, try to find abstracts of research that is similar to your research.

Qualities of a Good Abstract

Well developed paragraphs are unified, coherent, concise, and able to stand alone

Uses an introduction/body/conclusion structure which presents the article, paper, or report's purpose, results, conclusions, and recommendations in that order

Follows strictly the chronology of the article, paper, or report Provides logical connections (or transitions) between the information included

Adds no new information, but simply summarizes the report

Is understandable to a wide audience

Oftentimes uses passive verbs to downplay the author and emphasize the information

Steps to Writing Effective Abstracts

Reread the article, paper, or report with the goal of abstracting in mind. Look specifically for these main parts of the article, paper, or report: purpose, methods, scope, results, conclusions, and recommendation. If you're writing an abstract about another person's article, paper, or report, the introduction and the summary are good places to begin. These areas generally cover what the article emphasizes. After you've finished rereading the article, paper, or report, write a rough draft without looking back at what you're abstracting. Don't merely copy key sentences from the article, paper, or report: you'll put in too much or too little information. Don't rely on the way material was phrased in the article, paper, or report: summarize information in a new way.

Don'ts

Do not commence with "this paper...", "this report..." or similar. It is better to write about the research than about the paper.

Do not explain the sections or parts of the paper.

Avoid sentences that end in "...is described", "...is reported", "...is analyzed" or similar.

Do not begin sentences with "it is suggested that..." "it is believed that...", "it is felt that..." or similar. In every case, the four words can be omitted without damaging the essential message.

Do not repeat or rephrase the title.

Do not refer in the abstract to information that is not in the document.

If possible, avoid trade names, acronyms, abbreviations, or symbols. You would need to explain them, and that takes too much room.

The abstract should be about the research, not about the act of writing.

Where to Find Examples of Abstracts:

The best source of example abstracts is journal articles. Go to the library and look at scientific journals, or look at electronic journals on the web.

Read the abstract; read the article. Pick the best ones, the examples where the abstract makes the article easier to read, and figure out how they do it.

Not everyone writes good abstracts, even in refereed journals, but the more abstracts you read, the easier it is to spot the good ones.

Text 3

Professional development

Professional development is learning to earn or maintain professional credentials such as academic degrees to formal coursework, conferences and informal learning opportunities situated in practice. It has been described as intensive and collaborative, ideally incorporating an evaluative stage. There are a variety of approaches to professional development, including consultation, coaching, communities of practice, lesson study, mentoring, reflective supervision and technical assistance.

Approaches

In a broad sense, professional development may include formal types of vocational education, typically post-secondary or poly-technical training leading to qualification or credential required to obtain or retain employment. Professional development may also come in the form of pre-service or in-service professional development programs. These programs may be formal, or informal, group or individualized. Individuals may pursue professional development independently, or programs may be offered by human resource departments. Professional development on the job may develop or enhance process skills, sometimes referred to as leadership skills, as well as task skills. Some examples for process skills are 'effectiveness skills', 'team functioning skills', and 'systems thinking skills'.

Professional development opportunities can range from a single workshop to a semester-long academic course, to services offered by a medley of different professional development providers and varying widely with respect to the philosophy, content, and format of the learning experiences. Some examples of approaches to professional development include:

Case Study Method – The case method is a teaching approach that consists in presenting the students with a case, putting them in the role of a decision maker facing a problem (Hammond 1976) – See Case method.

Certification - to assess a professional and evaluate the different competencies based on a given set of standards required in the sector employed. (For instance, in the Teaching profession there is a certification offered by Centre for Teacher Accreditation (CENTA) which aims to recognise outstanding teachers)

Consultation – to assist an individual or group of individuals to clarify and address immediate concerns by following a systematic problem-solving process.

Coaching – to enhance a person's competencies in a specific skill area by providing a process of observation, reflection, and action.

Communities of Practice – to improve professional practice by engaging in shared inquiry and learning with people who have a common goal

Lesson Study – to solve practical dilemmas related to intervention or instruction through participation with other professionals in systematically examining practice

Mentoring – to promote an individual's awareness and refinement of his or her own professional development by providing and recommending structured opportunities for reflection and observation

Reflective Supervision – to support, develop, and ultimately evaluate the performance of employees through a process of inquiry that encourages their understanding and articulation of the rationale for their own practices

Technical Assistance – to assist individuals and their organization to improve by offering resources and information, supporting networking and change efforts.

Professional development goals

Professional development goals vary depending on the field a person works in, but usually fall into three broad areas. Job-specific goals have to do with tasks that are part of an employee's job responsibilities. Skill-set goals are broader than job-specific goals, but are still related to what a person does. Educational goals are about gaining advanced knowledge in a subject.

Job-specific goals are directly applicable to the job a person is currently doing. A goal such as to call five potential new clients in a week might be a job-specific goal for someone in sales. A web designer might have a goal to write a contact info page for website.

Skill-set professional development goals are generally about improving a complex set of skills rather than one particular task. A goal to improve proficiency in a broad area such as project management, which includes skills in time management, planning, and sometimes personnel coordination, would be a skill-set goal. Such goals are often easier to achieve if they are broken down into smaller steps.

An educational goal might be something specific to a job, such as taking a class in a particular software application or business method. It might be working toward a professional certification or other professional credential, or it could even be earning a college degree. Some employers offer in-house or outside training or tuition reimbursement to help their employees pursue these goals.

Text 4

Guidelines for academic communication

How to Read and Understand a Science Journal Article

Instruction: This text is an adaptation of Kendra Cherry's recommendations for graduate students and young researchers, published in the Internet and free of copyright limitations. On reading and understanding the text your purpose will be to acquire skills of skim reading scholarly papers in your field and writing a critique of both an article and a dissertation. Your immediate aim will be to employ the tactics and memorize the vocabulary well enough to be ready to discuss the topic, if necessary, with your examiner.

Part 1. A Few Simple Tactics

If you are studying your field, you are going to need to read articles published in academic and professional journals at some point. You might read these articles as part of a literature review for a paper you are writing, or your instructor may even ask you to write a critique of an article. Whatever the reason, it is essential that you understand what you are reading and find ways to then summarize the content in your own words.

Research articles can be complex and may seem daunting, especially to beginners who have no experience reading or writing this type of paper. Learning how to read this type of writing is mostly a matter of experience, but utilizing a few simple tactics can make this process much easier.

Start by Understanding How a Journal Article is Structured:

At first glance, a journal article may seem to be a confusing collection of unfamiliar terminology and complicated tables. However, most articles follow a fairly standardized format that conforms to guidelines established by academic associations. By understanding this structure, you'll feel more comfortable working your way through each section.

The Abstract: This short paragraph-long section provides a brief overview of the article. Reading the abstract is a great way to get an idea for what information the article will cover. Reading this section first can help you decide if the article is relevant to your topic or interests.

The Introduction: The second section of the article introduces the problem and reviews previous research and literature on the topic. This part of the article will help you better understand the background of the research and the current question that is under investigation.

The Method Section: This part of the article details how the research was conducted. Information about the participants, the procedures, the instruments and the variables that were measured are all described in this section.

The Results Section: So what were the actual results of the study? This important section details what the researchers found, so pay careful attention to this part of the article. Tables and figures are frequently included in addition to the text.

The Discussion Section: What do the result of the study really mean? In this section, the author(s) interpret the results, outline the implications of the study and provide possible descriptions of future research that should be conducted.

The References Sections: This section lists all of the articles and other sources cited within the article.

Skim through the article:

Once you understand the basic structure of the article, your first step should be to briefly skim through the material. Never start by doing an in-depth reading of an article before you have skimmed over each section. Attempting a thorough read-through before you have skimmed the contents is not only difficult; it may be a waste of valuable time.

Skimming is a great way to become familiar with the topic and the information included in the paper. In some cases, you may find that the paper is not well-suited to your needs, which can save time and allow you to move on to a research article that is more appropriate.

Take Notes on Each Section and Ask Questions:

Your next step should be to carefully read through each section, taking notes as you go. Write down important points, but also make note of any terminology or concepts that you do not understand. Once you've read the entire article, go back and start looking up the information that you didn't understand using another source. This might involve using a dictionary, textbook, online resource or even asking a classmate or your professor.

Identify Key Information:

· Whether you are looking for information that supports the hypothesis in your own paper or carefully analyzing the article and critiquing the research methods or findings, there are important questions that you should answer as you read the article.

- What is the main hypothesis?
- Why is this research important?
- Did the researchers use appropriate measurements and procedures?
- What were the variables in the study?
- What was the key finding of the research?
- Do the findings justify the author's conclusions?

The guidelines for a research paper

The following guidelines are designed to help you research and produce a research paper that is well written, of high quality, correctly cited, and with good analytical content.

Basic guidelines

With almost everything you write, there are some basic guidelines that you should follow:

THINK about the purpose and the context of the research paper you are producing.

STATE clearly and concisely what it is that you plan to achieve.

INCLUDE only relevant material.

STRIVE for consistency of expression throughout the paper.

MAKE SURE you are ACCURATE in all of your statements and in the analysis and presentation of data.

PRESENT your information in a logical and effective order.

CONVEY your message as simply and clearly as possible.
MAKE SURE that your paper is both COHERENT and COMPLETE.
DO NOT draw conclusions that are not clearly based on your evidence.
NEVER assume that one draft will «do the job». Count on producing at least two drafts before producing the final copy.
ALWAYS proofread and make any needed corrections before submitting the paper.

Text 5

Dissertations: Conducting Research

Instruction: These are guidelines for conducting a dissertation which usually pose a big problem for post graduate students. This is an adaptation of a text placed in the Internet without copyright limitations. You are sure to realize that, no matter how advanced you are in your field or how novel and promising your ideas might be for your research, it will take too much time for you to achieve your goal because of your failure to demonstrate your achievements in the selected field. On reading and understanding the following text your purpose will be to verify what you know about the standard guidelines of writing a dissertation. This will be your goal as a competitor for the candidate degree. However your goal as an examinee is to get ready to present these guidelines employing the vocabulary that you acquire in this section at your English candidate exam.

Writing a dissertation in your field is similar to writing a scientific report, in which the main goal is the demonstration of acquired knowledge in a selected field. The research in dissertations is a difficult aspect as your field of science has many diverse directions.

Despite the diversity of subjects, there are accepted methodological approaches in writing dissertations. This article will provide a guide on the important elements of dissertations, and the way they can be approached.

The Steps in Dissertations

The common steps that can be identified through the process of writing a dissertation are as follows:

Identifying a research problem — such step in dissertations implies asking questions regarding an identified problem, considering the feasibility of them being answered.

A literature review A review of literature will indicate the gaps in specific knowledge in the selected field. It should be highlighted that in terms of division to sections, it can be stated that the literature review is one of the largest sections in dissertations, serving two purposes, i.e. demonstrating the accumulated knowledge and identifying the gaps in it.

Formulating a hypothesis — basically, hypotheses are the assumptions made through the preliminary investigation. One or more are selected as the basis of the dissertation, and which are tested in the study.

Data collection — according to the established hypothesis, the type of data to be collected will be determined. At the same time, the nature of the requested data will require assessing the most effective methods of its collection, e.g. quantitative or qualitative data. Accordingly, several aspects should be determined in dissertations such as the samples, the body of data, and the appropriate method of data measurement.

Analysis of findings and presentation results.

Useful Tips:

The «thinking about it stage» is when you are finally faced with the reality of completing your degree. Usually the early phases of a graduate program proceed in clear and very structured ways. The beginning phases of a graduate program proceed in much the same manner as an undergraduate degree program. There are clear requirements and expectations, and the graduate student moves along, step by step, getting ever closer to the completion of the program.

One day, however, the clear structure begins to diminish and now you're approaching the thesis/dissertation stage. This is a new and different time. These next steps are more and more defined by you and not your adviser, the program, or the department.

Be realistic about the time that you're willing to commit to your research project. If it's a 10 year project that you're thinking about admit it at the beginning and then decide whether or not you have 10 years to give to it. If the project you'd like to do is going to demand more time than you're willing to commit then you have a problem.

Research proposal. Assuming you've done a good job of «thinking about» your research project, you're ready to actually prepare the proposal. A word of caution those students who tend to have a problem in coming up with a viable proposal often are the ones that have tried to rush through the «thinking about it» part and move too quickly to trying to write the proposal. Here's a final check. Do each of these statements describe you? If they do you're ready to prepare your research proposal.

- I am familiar with other research that has been conducted in areas related to my research project.
- I have a clear understanding of the steps that I will use in conducting my research.
- I feel that I have the ability to get through each of the steps necessary to complete my research project.
- I know that I am motivated and have the drive to get through all of the steps in the research project.

Text 6

Animal feed

Animals in general require the same nutrients as humans. Some feeds, such as pasture grasses, hay and silage crops, and certain cereal grains, are grown specifically for animals. Other feeds, such as sugar beet pulp, brewers' grains, and pineapple bran, are by-products that remain after a food crop has been processed for human use. Surplus food crops, such as wheat, other cereals, fruits, vegetables, and roots, may also be fed to animals.

History does not record when dried roughage or other stored feeds were first given to animals. Most early records refer to nomadic peoples who, with their herds and flocks, followed the natural feed supplies. When animals were domesticated and used for work in crop production, some of the residues were doubtless fed to them.

The first scientific effort to evaluate feeds for animals on a comparative basis was probably made in 1809 by the German agriculturist Albrecht von Thaer, who developed "hay values" as measures of the nutritive value of feeds. Tables of the value of feeds and of the requirements of animals in Germany followed and were later used in other countries.

Preservation of green forages such as beet leaves and corn (maize) plants by packing them in pits in the earth has long been practiced in northern Europe. The idea of making silage as a means of preserving and utilizing more of the corn plant was gradually developed in Europe and was taken from France to the United States in the 1870s. When the mature, dried corn plant was fed to cattle in the winter, much of the coarse stem was wasted, but when it was chopped and ensiled (made into silage), everything was eaten. During the 20th century, concrete bunker silos for storage of silage became a common sight in many rural areas worldwide.

Basic nutrients and additives

The basic nutrients that animals require for maintenance, growth, reproduction, and good health include carbohydrates, protein, fat, minerals, vitamins, and water. The energy needed for growth and activity is derived primarily from carbohydrates and fats. Protein will also supply energy, particularly if carbohydrate and fat intake is inadequate or if protein intake exceeds the needs of the body.

Animals need a source of energy to sustain life processes within the body and for muscular activity. When the energy intake of an animal exceeds its requirements, the surplus is stored as body fat, which can be utilized later as a source of energy if less food becomes available.

Proteins

For immature animals, protein is also needed for growth of the muscles and other parts of the body. Since milk, eggs, and wool contain much protein, additional amounts are needed in the feed of animals producing these. All animals require a small amount of protein for maintenance—i.e., the daily repair of muscles, internal organs, and other body tissues.

Proteins are composed of more than 20 different amino acids, which are liberated during digestion. Animals with a simple single stomach (monogastric), including humans, monkeys, swine, poultry, rabbits, and mink, require correct amounts of the following 10 essential amino acids daily: arginine, histidine, isoleucine, leucine, lysine, methionine, phenylalanine, threonine, tryptophan, and valine. In addition to these, poultry need glycine and glutamic acid for growth. Cystine can replace up to half of the methionine requirement, and tyrosine can replace up to half of the phenylalanine requirement. High-quality protein, such as that supplied by eggs, milk, fish meal, meat by-products, and soybean meal, contains high concentrations of the essential amino acids in the proper balance for their full utilization. Poor-quality protein, such as that in most grains, including corn, barley, and sorghum, contains too little of one or more essential amino acids. Feeds having poor-quality proteins are useful when blended with other feeds that restore the balance in essential amino acids.

A protein source's amino acid profile is of secondary importance to ruminants, such as cattle, sheep, goats, and the other animals that have four stomachs, because the bacteria that aid in the digestion of food in the rumen (first stomach) use simple nitrogen compounds to build proteins in their cells. Further on in the digestive tract, the animals digest the bacteria. By this indirect means, ruminants produce high-quality protein from a food that might originally have contained poor protein or from urea (a nitrogen compound). Very young ruminants, such as calves, lambs, and kids, however, need good-quality protein until the rumen develops sufficiently for this bacterial process to become established.

Carbohydrates and fats

Most animals get energy from carbohydrates and fats, which are oxidized in the body. These yield heat, which maintains body temperature, furnishes energy for growth and muscle activity, and sustains vital functions. Animals need much more energy (and more total feed) for growth, work, or milk production than for simple maintenance.

Simple carbohydrates such as sugars and starches are readily digested by all animals. The complex carbohydrates (cellulose, hemicelluloses) that make up the fibrous stems of plants are broken down by bacterial and protozoal action in the rumen of cattle and sheep or in the cecum of rabbits and horses. Such complex carbohydrates cannot be digested by humans or, to any appreciable extent, by dogs, cats, birds, or laboratory animals. Thus, ruminants and some herbivorous animals obtain much more of the energy-giving nutrients from the carbohydrates of plants than do monogastric carnivores and omnivores, for which fibrous materials have little or no energy value.

Fat in feeds has a high nutritive value because it is easily digested and because it supplies about two and one-quarter times as much energy as an equal weight of starch or sugar. While fat has a high nutritive value, it can be replaced by an equivalent amount of digestible carbohydrates in the feed, except for small amounts of essential fatty acids. Very small amounts of the unsaturated fatty acid linoleic, contained in some fats, are necessary for growth and health. Animal feeds typically supply ample amounts of this acid unless it has been removed by processing.

Minerals

Minerals essential for animal life include common salt (sodium chloride), calcium, phosphorus, sulfur, potassium, magnesium, manganese, iron, copper, cobalt, iodine, zinc, molybdenum, and selenium. The last six of these can be toxic to animals if excessive amounts are eaten.

All farm animals generally need more common salt than is contained in their feeds, and they are supplied with it regularly. Of the other essential minerals, phosphorus and calcium are most apt to be lacking, because they are heavily drawn upon to produce bones, milk, and eggshells. Good sources of calcium and phosphorus are bone meal, dicalcium phosphate, and defluorinated phosphates. Eggshells are nearly pure calcium carbonate. Calcium may readily be supplied by ground limestone, ground seashells, or marl, which are all high in calcium.

Text 7

Basic types of feeds

Animal feeds are classified as follows: (1) concentrates, high in energy value, including fat, cereal grains and their by-products (barley, corn, oats, rye, wheat), high-protein oil meals or cakes (soybean, canola, cottonseed, peanut [groundnut]), and by-products from processing of sugar beets, sugarcane, animals, and fish, and (2) roughages, including pasture grasses, hays, silage, root crops, straw, and stover (cornstalks).

Concentrate foods

Cereal grains and their by-products

In the agricultural practices of North America and northern Europe, barley, corn, oats, rye, and sorghums are grown almost entirely as animal feed, although small quantities are processed for human consumption as well. These grains are fed whole or ground, either singly or mixed with high-protein oil meals or other by-products, minerals, and vitamins to form a complete feed for pigs and poultry or an adequate dietary supplement for ruminants and horses.

The production of grains is seasonal because of temperature or moisture conditions or a combination of both. It is necessary to produce a full year's supply during the limited growing season. The grain is dried to 14 percent or less moisture to prevent sprouting or molding; the grain is then stored in containers or buildings where insects and rodents cannot destroy it. It is generally desirable to store more than a year's supply of the grains to be used as feed, because crop failures sometimes occur.

High-protein meals

Vegetable seeds produced primarily as a source of oil for human food and industrial uses include soybeans, peanuts (groundnuts), flaxseed (linseed), canola, cottonseed, coconuts, oil palm, and sunflower seeds. After these seeds are processed to remove the oil, the residues, which may contain from 5 percent to less than 1 percent of fat and 20 to 50 percent of protein, are marketed as animal feeds. Cottonseed and peanuts have woody hulls or shells, which are generally removed before processing—if the hulls or shells are left intact, the resulting by-product is higher in fibre and appreciably lower in protein and energy value. The protein quality of these meals for monogastrics varies greatly depending on the levels and availability of the amino acids present. Ruminants in general require only protein or nitrogen sources for the rumen microbes to synthesize amino acids.

These high-protein feeds supplement inexpensive roughages, cereal grains, and other low-protein feeds in order to furnish the protein and amino acids needed for efficient growth or production. The supplement chosen for a particular diet depends largely on the cost and availability of supply.

By-products of sugar beets and sugarcane

From the sugar beet industry come beet tops, which are used on the farm either fresh or ensiled, and dried beet pulp and beet molasses, which are produced in sugar factories. Cane molasses is a residue from cane sugar manufacture. These are all palatable, high-quality sources of carbohydrates. Sugarcane bagasse (stalk residue) is fibrous, hard to digest, and of very low feed value. In Europe, beets and some other roots are grown as animal feed. Citrus molasses and dried citrus pulp, which are generally available at low cost as by-products of the citrus juice industry, are often used as high-quality feeds for cattle and sheep.

Other by-product feeds

Large quantities of animal feed are by-products or residues from commercial processing of cereal grains for human consumption. The largest group of these by-product feeds comes from the milling of wheat, including wheat bran, wheat middlings, wheat germ meal, and wheat mill feed. In some areas, bakery wastes, such as stale and leftover bread, rolls, and various pastry products, are ground and used as filler or feed for pets and farm animals. Rice bran and rice hulls are obtained in similar fashion from the mills that polish rice for human food. Corn gluten feed, corn gluten meal, and hominy feed are produced as by-products from the manufacture of starch for industrial and food uses.

Brewers' grains, corn distillers' grains and solubles, and brewer's yeast are useful animal feeds and are collected from the dried residues of the fermentation industries that produce beer and distilled spirits. Waste products from pineapple-canning plants include pineapple bran or pulp and the ensiled leaves from the plant. By-products from the abattoirs and meatpacking plants that process animals into meat include such feeds as meat and bonemeal, tankage (animal residue left after rendering fat in a slaughterhouse), meat scraps, blood meal, poultry waste, and feather meal. Various types and qualities of fish meals are produced by fish-processing plants. These animal by-products typically contain 50 percent or more high-quality protein and the mineral elements calcium and phosphorus. Steamed bonemeal is particularly high in these important minerals. Dried skim milk, dried whey, and dried buttermilk are feed by-products from the dairy industry.

Roughages

Pasture

Pasture grasses and legumes, both native and cultivated, are the most important single source of feed for ruminants such as cattle, horses, sheep, and goats. During the growing season they furnish most of the feed for these animals at a cost lower than for feeds that need to be harvested, processed, and transported. Hundreds of different grasses, legumes, bushes, and trees are acceptable as feeds for grazing animals. The nutritive value of the cultivated varieties has been studied, but information is incomplete for many of those that occur naturally.

Hay

Hay is produced by drying grasses or legumes when they approach the stage of maximum plant growth and before the seed develops. This stage has been shown to give maximum yields of digestible protein and carbohydrates per unit of land area. The moisture content is typically reduced below 18 percent in order to prevent molding, heating, and spoilage during storage. Legume hays, such as alfalfa and clovers, are high in protein, while the grasses (such as timothy and Sudan grass) are lower in protein and vary considerably depending on their stage of maturity and the amount of nitrogen fertilization applied to them. Stored hay is fed to animals when sufficient fresh pasture grass is not available.

Silage

Silage is made by packing immature plants in an airtight storage container and allowing fermentation to develop acetic and lactic acids, which preserve the moist feed. Storage may be in upright tower silos or in trenches in the ground. The initial moisture concentration of the forage should be between 50 and 70 percent, depending on the type of silage. Lower moisture levels can cause difficulty in obtaining sufficient packing to exclude air and may result in molding or other spoilage. Too high a moisture content causes nutrient losses by seepage and results in the production of excessively acidic, unpalatable silage. Ensiled forage can be stored for a longer period of time with lower loss of nutrients than dry hay. The nutritive value of silage depends on the type of forage ensiled and how successfully it has been cured. Corn, sorghums, grasses, and sometimes leguminous forages are used in making silage.

2.2. Тестирование

Тесты – инструмент, с помощью которого преподаватель оценивает степень достижения аспирантом требуемых знаний, умений, навыков. Составление теста включает в себя создание выверенной системы вопросов, собственно процедуру проведения тестирования и способ измерения полученных результатов.

Шкала	Критерии оценивания (% правильных ответов)
Оценка 5 (отлично)	80-100

Шкала	Критерии оценивания (% правильных ответов)
Оценка 4 (хорошо)	70-79
Оценка 3 (удовлетворительно)	50-69
Оценка 2 (неудовлетворительно)	менее 50

Тест 1

- Where is your luggage? — I _____ it at the station.
 - ☐ **have left**
 - ☐ left
 - ☐ had left
- It was the _____ sweater in the shop.
 - ☐ most cheapest
 - ☐ cheaper
 - ☐ **cheapest**
- If I _____ time, I'll go with you.
 - ☐ will have
 - ☐ has
 - ☐ **have**
- Mike _____ a letter at the moment.
 - ☐ writes
 - ☐ wrote
 - ☐ **is writing**
- I _____ in London 5 years ago.
 - ☐ had lived
 - ☐ has lived
 - ☐ **lived**
- My mother _____ TV at 5 o'clock yesterday.
 - ☐ watched
 - ☐ **was watching**
 - ☐ has watched
- Mary _____ all her homework by 5 o'clock yesterday.
 - ☐ **had done**
 - ☐ has done
 - ☐ did
- I _____ to school tomorrow.
 - ☐ **will not go**
 - ☐ don't go
 - ☐ didn't go
- She is going to study music _____ next year.
 - ☐ - **(прав. ответ)**
 - ☐ in
 - ☐ at
- My parents _____ together since 1972.
 - ☐ **have lived**

- ☐ live
☐ are living
11. I _____ Pete today.
☐ **have seen**
☐ saw
☐ have see
12. His niece _____ this book last year.
☐ has read
☐ **read**
☐ have read
13. She _____ help you tomorrow.
☐ **will be able to**
☐ must
☐ had to
14. Her brother _____ to Washington.
☐ never has been
☐ was never
☐ **has never been**
15. _____ to New York?
☐ Did you ever be
☐ You have ever been
☐ **Have you ever been**
16. You should eat more, _____ you'll make yourself ill.
☐ **or**
☐ and
☐ if
17. He _____ yesterday.
☐ **didn't eat**
☐ didn't ate
☐ hasn't eaten
18. _____ the piano yesterday?
☐ Have you play
☐ **Did you play**
☐ Did you played
19. It was the _____ shirt in the shop.
☐ most cheapest
☐ cheaper
☐ **cheapest**
20. Where _____ my pen? I cannot find it.
☐ **have you put**
☐ didyouput
☐ youput

Tect 2

1. I _____ to the cinema since last year.
☐ didn'tgo
☐ don'tgo
☐ **haven'tbeen**

2. They sometimes _____ to the cinema on Friday evening.
- ☐ **go**
 - ☐ have gone
 - ☐ goes
3. "_____ report is this?" "It's John's".
- ☐ Which
 - ☐ **Whose**
 - ☐ What
4. Who was that young lady _____?
- ☐ spoke to you
 - ☐ **that you were speaking to**
 - ☐ that you spoke
5. Look, children! Your uncle has _____ you a bag of sweets.
- ☐ caught
 - ☐ taken
 - ☐ **brought**
6. It is not my book, it is _____.
- ☐ them
 - ☐ **theirs**
 - ☐ their
7. I _____ having lunch when she knocked at the door.
- ☐ **wasstill**
 - ☐ stillwas
 - ☐ wasyet
8. I'm going out to the garden to pick some beans _____ it isn't raining.
- ☐ that
 - ☐ so
 - ☐ **while**
9. Simon is too busy _____ see her now.
- ☐ for
 - ☐ **to**
 - ☐ that
10. There wasn't any reliable information on practical aspects, _____?
- ☐ wasn'tit
 - ☐ **wasthere**
 - ☐ wasn'tthere
11. It is not my book, it is _____.
- ☐ them
 - ☐ **theirs**
 - ☐ their
12. Your bag looks heavy! I'll carry _____ for you.
- ☐ **it**
 - ☐ him
 - ☐ her
13. Will you take _____ magazines with you?
- ☐ anything
 - ☐ **any**

- ☐ something
14. She sings _____ than anyone I know.
- ☐ **more beautiful**
- ☐ beautiful
- ☐ much beautiful
15. Bats and owls generally hunt at _____ night.
- ☐ the
- ☐ a
- ☐ **-(прав. ответ)**
16. She is going to study music _____ next year.
- ☐ **-(прав. ответ)**
- ☐ in
- ☐ at
17. The workers _____ the road by the end of the year.
- ☐ **will have built**
- ☐ will build
- ☐ willhavebeenbuilt
18. Chris is trying to _____ smoking.
- ☐ **give up**
- ☐ give out
- ☐ give down
19. _____ I speak to Jane, please?
- ☐ Must
- ☐ **Can**
- ☐ Need
20. When the game is over, we _____ a cup of tea.
- ☐ **will have**
- ☐ has had
- ☐ had

Тест 3

1. I _____ go to the bank yesterday. I hadn't got any money.
- ☐ must to
- ☐ **had to**
- ☐ will have to
2. Karen is the _____ girl in the class.
- ☐ prettier
- ☐ **prettiest**
- ☐ more pretty
3. _____ you speak any foreign languages?
- ☐ Oughtto
- ☐ Must
- ☐ **Can**
4. Mike _____ a letter at the moment.
- ☐ writes
- ☐ wrote
- ☐ **is writing**
5. It's Sunday tomorrow, _____ I don't have to get up early.

- ☐ in order to
 - ☐ because
 - ☐ **so**
6. I'll _____ go now. My friends are waiting for me.
- ☐ **have to**
 - ☐ can
 - ☐ may
7. I _____ to the cinema since last year.
- ☐ didn't go
 - ☐ don't go
 - ☐ **haven't been**
8. - George phoned while you were out.
- O.K. I _____ him back.
- ☐ **will phone**
 - ☐ phoned
 - ☐ will be phoned
9. I _____ my keys. I don't know what to do.
- ☐ has lost
 - ☐ **have lost**
 - ☐ have been lost
10. You _____ have informed the clients in advance. Why didn't you do that?
- ☐ **should**
 - ☐ needs
 - ☐ can
11. _____ to Japan?
- ☐ Did you ever be
 - ☐ You have ever been
 - ☐ **Have you ever been**
12. Mike _____ a letter at the moment.
- ☐ writes
 - ☐ wrote
 - ☐ **is writing**
13. She _____ help you tomorrow.
- ☐ **will be able**
 - ☐ must
 - ☐ had to
14. _____ you speak any foreign languages?
- ☐ Ought to
 - ☐ Must
 - ☐ **Can**
15. I have _____ appointment at the dentist's this afternoon.
- ☐ **an**
 - ☐ -
 - ☐ the
16. Chris is trying to _____ smoking.
- ☐ **give up**
 - ☐ give out

- ☐ give down
17. She is going to study music _____ next year.
- ☐ - (прав. ответ)
- ☐ in
- ☐ at
18. There isn't a good restaurant in this town, _____.
- ☐ is it?
- ☐ isn't there?
- ☐ **is there?**
19. Bats and owls generally hunt at _____ night.
- ☐ the
- ☐ a
- ☐ - (прав. ответ)
20. _____ I speak to Jane, please?
- ☐ Must
- ☐ **Can**
- ☐ Ought

Тест 4

1. I _____ go to the bank yesterday. I hadn't got any money.
- ☐ must to
- ☐ **had to**
- ☐ will have to
2. Karen is the _____ girl in the class.
- ☐ prettier
- ☐ **prettiest**
- ☐ more pretty
3. _____ you speak any foreign languages?
- ☐ Oughtto
- ☐ Must
- ☐ **Can**
4. Mike _____ a letter at the moment.
- ☐ writes
- ☐ wrote
- ☐ **is writing**
5. It's Sunday tomorrow, _____ I don't have to get up early.
- ☐ in order to
- ☐ because
- ☐ **so**
6. I'll _____ go now. My friends are waiting for me.
- ☐ **have to**
- ☐ can
- ☐ may
7. I _____ to the cinema since last year.
- ☐ didn'tgo
- ☐ don'tgo

- ☐ **haven't been**
8. - George phoned while you were out.
- O.K. I _____ him back.
- ☐ **will phone**
☐ phoned
☐ will be phoned
9. I _____ my keys. I don't know what to do.
- ☐ has lost
☐ **have lost**
☐ have been lost
10. You _____ have informed the clients in advance. Why didn't you do that?
- ☐ **should**
☐ needs
☐ can
11. _____ to Japan?
- ☐ Did you ever be
☐ You have ever been
☐ **Have you ever been**
12. Mike _____ a letter at the moment.
- ☐ writes
☐ wrote
☐ **is writing**
13. She _____ help you tomorrow.
- ☐ **will be able**
☐ must
☐ had to
14. _____ you speak any foreign languages?
- ☐ Ought to
☐ Must
☐ **Can**
15. I have _____ appointment at the dentist's this afternoon.
- ☐ **an**
☐ -
☐ the
16. Chris is trying to _____ smoking.
- ☐ **give up**
☐ give out
☐ give down
17. She is going to study music _____ next year.
- ☐ **- (прав. ответ)**
☐ in
☐ at
18. There isn't a good restaurant in this town, _____.
- ☐ is it?
☐ isn't there?
☐ **is there?**
19. Bats and owls generally hunt at _____ night.
- ☐ the

- ☐ a
- ☐ - (прав. ответ)

20. _____ I speak to Jane, please?

- ☐ Must
- ☐ **Can**
- ☐ Ought

Тест 5

1. What _____ your favourite time of the year?

- ☐ are
- ☐ to be
- ☐ **is**

2. I _____ my keys. I don't know what to do.

- ☐ has lost
- ☐ **have lost**
- ☐ have been lost

3. Chris is trying to _____ smoking.

- ☐ **give up**
- ☐ give out
- ☐ give down

4. _____ I speak to Jane, please?

- ☐ Must
- ☐ **Can**
- ☐ Need

5. We _____ football at 7 o'clock tomorrow.

- ☐ will play
- ☐ **will be playing**
- ☐ will playing

6. I will _____ go to bed early tonight.

- ☐ **have to**
- ☐ can
- ☐ are to
- ☐ must

7. Your bag looks heavy! I'll carry _____ for you.

- ☐ **it**
- ☐ him
- ☐ her

8. I _____ having lunch when she knocked at the door.

- ☐ **wasstill**
- ☐ stillwas
- ☐ wasyet

9. You should eat more, _____ you'll make yourself ill.

- ☐ **or**
- ☐ and
- ☐ if

10. The Queen _____ at Windsor Castle yesterday.

- ☐ is arriving

- ☐ have arrived
☐ **arrived**
11. Things are much more expensive now. There _____ a big rise in the cost of living.
☐ have been
☐ **has been**
☐ was
12. My house is _____ in the street.
☐ smaller
☐ more smaller
☐ **the smallest**
13. She is going to see her daughter who has come from _____ Canada.
☐ the
☐ a
☐ **- (прав. ответ)**
14. We enjoyed our walk _____ the bad weather.
☐ **despite**
☐ but
☐ for
15. Are you _____ working for us?
☐ interested at
☐ **interested in**
☐ interested with
16. _____ to London?
☐ Did you ever be
☐ You have ever been
☐ **Have you ever been**
17. You ____ have informed the clients in advance. Why didn't you do that?
☐ **should**
☐ needs
☐ has to
18. The amount of organically grown food on sale has _____ enormously in recent years.
☐ **increased**
☐ raised
☐ lifted
19. You may borrow my laptop _____ you promise to look after it.
☐ **as long as**
☐ unless
☐ in case
20. When the game is over, we _____ a cup of tea.
☐ **will have**
☐ has had
☐ had

Тест 6

1. ... did he stay there?

- ☐ How much
 - ☐ What
 - ☐ **How long**
2. Our plan_____ by the members of the committee now.
- ☐ considers
 - ☐ **is being considered**
 - ☐ is considered
3. _____ you speak any foreign languages?
- ☐ Ought to
 - ☐ Must
 - ☐ **Can**
4. The university of Michigan is one of the best universities in the United States and it _____ in Ann Arbor.
- ☐ located
 - ☐ location
 - ☐ **is located**
5. It's Sunday tomorrow, _____ I don't have to get up early.
- ☐ in order to
 - ☐ because
 - ☐ **so**
6. I'll _____ go now. My friends are waiting.
- ☐ **have to go**
 - ☐ can
 - ☐ may
7. I _____ to London since last year.
- ☐ didn't go
 - ☐ don't go
 - ☐ **haven't been**
8. - George phoned while you were out.
- O.K. I _____ him back.
- ☐ **will phone**
 - ☐ phoned
 - ☐ will be phoned
9. I _____ my papers. I don't know what to do.
- ☐ has lost
 - ☐ **have lost**
 - ☐ have been lost
10. You _____ have informed the clients in advance. Why didn't you do that?
- ☐ **should**
 - ☐ needs
 - ☐ can
11. _____ to Japan?
- ☐ Did you ever be

- ☐ You have ever been
- ☐ **Have you ever been**
12. My colleague _____ a letter at the moment.
- ☐ writes
- ☐ wrote
- ☐ **is writing**
13. She _____ to help you tomorrow.
- ☐ **will be able**
- ☐ must
- ☐ had to
14. When the game is over, we _____ a cup of tea.
- ☐ **will have**
- ☐ has had
- ☐ had
15. My boss really annoys me because she _____ me to work at the weekends.
- ☐ **is always asking**
- ☐ asked
- ☐ would ask
16. Chris is trying to _____ smoking.
- ☐ **give up**
- ☐ give out
- ☐ give down
17. She is going to study German _____ next year.
- ☐ **- (прав. ответ)**
- ☐ in
- ☐ at
18. The bridge _____ by tomorrow morning.
- ☐ is being reconstructed
- ☐ **will have been reconstructed**
- ☐ will be reconstructed
19. Bats and owls generally hunt at _____ night.
- ☐ the
- ☐ a
- ☐ **- (прав. ответ)**
20. _____ I speak to Jane, please?
- ☐ Must
- ☐ **Can**
- ☐ Ought

Тест 7

1. "I'm not very sociable. _____."
- ☐ I don't
- ☐ So am I

☐ **Neither am I**

2. I _____ my spectacles. I don't know what to do.

☐ has lost

☐ **have lost**

☐ have been lost

3. My friend is trying to _____ smoking.

☐ **give up**

☐ give out

☐ give down

4. Ellen _____ that she needs to do more exercise.

☐ has been realizing

☐ is realized

☐ **has realized**

5. The students _____ football at 7 o'clock tomorrow.

☐ will play

☐ **will be playing**

☐ will playing

6. I will _____ go to bed early tonight.

☐ **have to**

☐ can

☐ are to

7. Your bag looks heavy! I'll carry _____ for you.

☐ **it**

☐ him

☐ her

8. I _____ having lunch when somebody knocked at the door.

☐ **was still**

☐ still was

☐ was yet

9. You should eat more, _____ you'll make yourself ill.

☐ **or**

☐ and

☐ if

10. The Queen _____ at Windsor Castle yesterday.

☐ is arriving

☐ have arrived

☐ **arrived**

11. Is coffee _____ in Kenya?

☐ **grown**

☐ grow

☐ grew

12. My house is _____ in the street.

☐ smaller

- ☐ more smaller
- ☐ **the smallest**
13. 'Is a lot of paper wasted in your office? ' ____'.
- ☐ Yes, it has.
- ☐ **Yes, it is.**
- ☐ Yes, it was.
14. If you ____ me, what would you do?
- ☐ **were**
- ☐ like
- ☐ are
15. We enjoyed the film but it was very cold _____ the cinema.
- ☐ on
- ☐ into
- ☐ **in**
16. _____ to Washington?
- ☐ Did you ever be
- ☐ You have ever been
- ☐ **Have you ever been**
17. You ____ have informed the clients in advance. Why didn't you do that?
- ☐ **should**
- ☐ needs
- ☐ has to
18. Could you tell me where _____ ?
- ☐ **the library is**
- ☐ is the library
- ☐ if the library
19. I _____ this book last year.
- ☐ have read
- ☐ **read**
- ☐ has read
20. When the game is over, we _____ a cup of tea.
- ☐ **will have**
- ☐ has had
- ☐ had

2.3. Реферат

Реферат – продукт самостоятельной работы аспиранта, представляющий собой краткое изложение в письменном виде полученных результатов теоретического анализа определенной научной (научно-исследовательской) темы, где автор раскрывает суть исследуемого вопроса, приводит различные точки зрения, а также собственное понимание проблемы.

Шкала	Критерии оценивания
-------	---------------------

Шкала	Критерии оценивания
Оценка5 (отлично)	реферат носит характер самостоятельной работы с указанием ссылок на источники литературы; тема реферата раскрыта в полном объеме; соблюдены все технические требования к реферату; список литературы оформлен в соответствии с ГОСТ;
Оценка4 (хорошо)	реферат носит характер самостоятельной работы с указанием ссылок на источники литературы; тема реферата не полностью раскрыта; есть ошибки и технические неточности оформления, как самого реферата, так и списка литературы;
Оценка3 (удовлетворительно)	реферат не носит характер самостоятельной работы, с частичным указанием ссылок на источники литературы; тема реферата частично раскрыта; есть ошибки и технические неточности оформления, как самого реферата, так и списка литературы;
Оценка2(неудовлетворительно)	реферат не носит характер самостоятельной работы, отсутствуют ссылки на источники литературы; тема реферата нераскрыта; допущены грубые ошибки при изложении материала.

Реферат выполняется на русском языке на основе прочитанной самостоятельно книги (монографии) на иностранном языке по своей научной специальности. Объем книги (монографии) составляет 275-280 стр. (650000-700000 печ. зн.). Объем реферата - 22-25 стр. (50000-60000 печ.зн.).

2. Процедуры и оценочные средства для проведения промежуточной аттестации

Экзамен (кандидатский экзамен)

Экзамен является формой оценки качества освоения аспирантом программы по научной специальности по разделам дисциплины.

Экзамен проводится по окончании чтения лекций и выполнения практических занятий. Экзамен принимается преподавателями, проводившими практические занятия и читающими лекции по данной дисциплине.

Присутствие на экзамене преподавателей с других кафедр без соответствующего распоряжения ректора, проректора по научной и инновационной работе/проректора по учебной, воспитательной работе и молодежной политике или начальника отдела аспирантуры и докторантуры не допускается.

Формы проведения экзамена (устный опрос, письменная работа, реферат, тестирование и др.) определяются кафедрой и доводятся до сведения аспирантов в начале семестра.

Для проведения экзамена ведущий преподаватель накануне получает в отделе аспирантуры и докторантуры экзаменационную ведомость, которая возвращается в отдел аспирантуры и докторантуры после окончания мероприятия в день проведения экзамена или утром следующего дня.

Во время экзамена аспиранты могут пользоваться с разрешения ведущего преподавателя справочной и нормативной литературой, другими пособиями и техническими средствами.

Преподавателю предоставляется право задавать аспирантам дополнительные вопросы в рамках программы дисциплины.

Оценка, внесенная в экзаменационную ведомость, является результатом успешного усвоения учебного материала.

Неявка на экзамен отмечается в экзаменационной ведомости словами «не явился».

Нарушение дисциплины, списывание, использование аспирантами неразрешенных печатных и рукописных материалов, мобильных телефонов, коммуникаторов, планшетных компьютеров, ноутбуков и других видов личной коммуникационной и компьютерной техники во время экзамена запрещено. В случае нарушения этого требования преподаватель обязан удалить аспиранта из аудитории и проставить ему в ведомости оценку «неудовлетворительно».

Аспирантам, не сдавшим экзамен в установленные сроки по уважительной причине, индивидуальные сроки проведения экзамена определяются приказом ректора Университета.

Инвалиды и лица с ограниченными возможностями здоровья, могут сдавать экзамены в сроки, установленные индивидуальным учебным планом. Инвалиды и лица с ограниченными возможностями здоровья, имеющие нарушения опорно-двигательного аппарата, допускаются на аттестационные испытания в сопровождении ассистентов-сопровождающих.

Шкала и критерии оценивания ответа аспиранта представлены в таблице.

Шкала	Критерии оценивания
Оценка 5 (отлично)	всестороннее, систематическое и глубокое знание программного материала, усвоение основной и дополнительной литературы, рекомендованной программой дисциплины; владение устной иноязычной речью, в процессе которой аспирант не допускает серьезных грамматических, лексических и стилистических ошибок; сформированность и устойчивость знаний, умений и навыков;
Оценка 4 (хорошо)	полное знание программного материала, усвоение основной литературы, рекомендованной программой дисциплины; владение устной иноязычной речью, в процессе которой аспирант допускает малозначительные грамматические, лексические и стилистические ошибки, которые не искажают смысл высказываний; достаточная сформированность знаний, умений и навыков;
Оценка 3 (удовлетворительно)	знание основного программного материала в минимальном объеме; погрешности непринципиального характера; посредственное владение иноязычной речью, в процессе которой аспирант допускает малозначительные грамматические, лексические и стилистические ошибки; выявлена недостаточная сформированность знаний, умений и навыков;
Оценка 2 (неудовлетворительно)	пробелы в знаниях основного программного материала, принципиальные ошибки при владении устной иноязычной речью, в процессе которой аспирант допускает значительные грамматические, лексические и стилистические ошибки, которые искажают смысл высказываний; компетенции не сформированы, отсутствуют соответствующие знания, умения и навыки.

Экзамен (кандидатский) проводится в два этапа.

На *первом этапе* аспирант выполняет:

- реферат на русском языке по прочитанной самостоятельно книге (монографии) на иностранном языке по своей научной специальности. Объем книги (монографии) составляет 275-280 стр. (650000-700000 печ. зн.). Объем реферата - 22-25 стр. (50000-60000 печ.зн.). К реферату

прилагается глоссарий с переводом терминологических единиц (200-250 терминов). Представленный реферат является допуском к экзамену.

– чтение и письменный перевод со словарем отрывка из научного текста. Объем 1500–1800 печатных знаков; время на подготовку – 45–60 мин. Успешное выполнение письменного перевода является условием допуска ко второму этапу экзамена. Качество перевода оценивается по зачетной системе.

Второй этап проводится устно и включает в себя три задания:

Вопросы к экзамену:

– изучающее чтение (без словаря) и аннотирование оригинального научного текста. Объем 2000 - 2500 печатных знаков. Время выполнения работы – 45-60 минут. Форма проверки: передача извлеченной информации осуществляется на иностранном языке.

– просмотровое чтение (без словаря) оригинального научного текста. Объем – 1000–1500 печатных знаков. Время выполнения – 2–3 минуты. Форма проверки: передача извлеченной информации осуществляется на русском языке.

– беседа с экзаменаторами на иностранном языке по теме научного исследования аспиранта.

Текст для изучающего чтения и аннотирования

Feeding a balanced diet, avoiding overfeeding, and providing abundant supplies of cool, clean, and pure water will help to optimize feed and nutrient use on an animal farm.

It is impossible for all nutrients to be in a perfect balance in commercial or practical diets, but we want to come close to meeting an animal's nutrient requirements. If the diet is balanced except for one underfed nutrient, then the entire production of the animal will be limited to the level of that "limiting nutrient" and all other nutrients will be wasted.

Overfeeding can be harmful to animals and to the environment. Animals that become overconditioned or obese may be unproductive and at greater risk of health problems. Excess feed is often wasted and may remain in the feeding area, become contaminated, and end up in the manure pile.

Water is the most abundant, cheapest, and least understood of all nutrients required for livestock production. Water is of concern whenever it is in short supply or contamination is suspected. If subfreezing temperatures turn water into a frozen nutrient, it will mean trouble for domestic livestock. Distress is often brought on by cold wet winter weather requiring an animal's digestive system and metabolic processes to function at peak efficiency to convert feedstuffs to energy so that they can remain warm, healthy, and productive. Conversely, in hot summer weather, water is essential to the animal as well. It serves to cool the animal and works as a solvent or buffer for chemical reactions in the body. When the weather is hot in the summer, an animals' requirement for water will increase. A lactating dairy cow requires on the average between 15 and 35 gallons of water per day; non-lactating dairy and beef cows require about 15 gallons per day; an adult horse will consume up to 15 gallons per day, which will increase 2 to 3 times when exercising; an adult sheep between 1 ½ and 3 gallons a day; adult swine from 3 to 5 gallons per day; and adult hens about a pint. A quick rule of thumb is that for every 2 pounds of dry feed intake, an animal should receive one gallon of water. This will vary with stress, weather conditions, heat, cold, disease, productive state, work, exercise, etc., as well as the water and salt content of the feed.

Often the first sign that water consumption is inadequate is when animals stop eating. Water is essential to maintain adequate feed consumption. How does this affect nutrient management? If we want our animals to reach maximum levels of production, then they will only have optimum feed intake if they receive adequate amounts water. Level of salt in the water or the diet can influence water requirements as can the presence of heavy metals, nitrates, microbes, and algae.

Water is not related to runoff or contamination on the farm in the same way that overfeeding or imbalanced diets are, but water influences the ability of animals to use feed. If water is inadequate or

contaminated, then animals will use diets less efficiently, eat less, be less productive, and may excrete more nutrients in waste.

Текст для просмотрового чтения (без словаря)

Animal feeding strategies to protect the environment have been studied closely in recent years. A possible method to decrease emissions is to decrease the source of the material being emitted. Several approaches for decreasing the quantity of nitrogen excreted in manure are available. One approach is to continue to increase the productivity of livestock and poultry. Increasing production per animal (faster growth rate, increased milk production) decreases the number of animals required to fill the market demand for those products. The animal's requirements can be divided into needs for maintenance (maintaining basal metabolism) and production. Meeting maintenance requirements results in a fixed amount of nitrogen excretion for each animal in the herd or flock. Since fewer animals are required with increasing production, the nitrogen losses to manure are decreased. Increasing milk production of dairy cows—by administering bovine somatotropin, increasing photoperiod using artificial lighting, and milking three times daily instead of two—would decrease manure nitrogen by 16 percent for a given amount of milk produced. Increased productivity has been accomplished through genetic selection, improved diet, improved housing and environmental controls, improved veterinary medical care, and improved management. Animal health is important to emissions control since unhealthy animals have decreased growth or decreased milk or egg production but their maintenance needs to remain the same, and they continue to produce emissions and manure.

A second approach to decreasing the quantity of nitrogen excreted is to more precisely match diets to requirements of groups of animals at various stages of growth, reproduction, lactation, and egg production. Since most animals are fed in groups, diets are composed to meet or exceed the requirements of all or nearly all of the animals within the group. Like human beings, animals also have species-specific requirements for essential amino acids. Grouping animals with similar requirements enables meeting the requirements of each animal more closely with the same diet. For example, grouping growing animals by age and gender allows a substantial decrease in the amounts of nutrients fed and excreted. Feeding broilers four different diets during their grow-out period, rather than the standard practice of three diets, resulted in decreasing nutrient requirements by 5 percent. (This practice is referred to as phase feeding.)

Вопросы по теме научного исследования аспиранта:

1. Why do you want to study this subject?
2. What do you intend to do after you have finished the course?
3. How do you intend to fund your study?
4. Why do I want to do further study?
5. What are the potential pros and cons of postgraduate study that I should consider?
6. What subject will I study?
7. How does postgraduate study differ from undergraduate study?
8. How do I decide where and what to study?
9. What are your greatest strengths?
10. What are your greatest weaknesses?
11. What are your career goals?
12. What skills do you have that will help you succeed on this course?
13. How did you make the decision to apply to our program?
14. What courses have you enjoyed the most?
15. What courses have been most difficult for you?
16. What has motivated you to pursue this academic field?
17. What are your short-term and long-term goals?
18. Which institution did you graduate from?

19. When did you achieve your Master's or specialist degree?
20. What was the subject of your Master's dissertation?
21. Are you still working on the same research topic?
22. Why have you chosen a postgraduate course?
23. What field of science are you currently working or studying in?
24. What do you enjoy most about working in your research field?
25. Do you balance your PhD research with other related employment activities?
26. What is the subject matter of your current research?
27. Do you have a full range of laboratory equipment for your research?
28. What is the relevance of your research, i.e. why is your topic worth researching?
29. What is the aim of your research?
30. What are the objectives (expected outcomes) of your research?
31. What characterisation methods do you apply in your study?
32. Are you familiar with the most important developments in your field of science?
33. Which library services do you use?
34. What sources of information do you consider to be the most reliable?
35. What equipment do you use in your laboratory?
36. What results have you achieved so far?
37. Have you got any publications?
38. Who is your scientific advisor?
39. Have you already started writing your PhD thesis?
40. When do you plan to defend your PhD thesis?

