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NC Forages and Pasture Technical Note No. 6
Calendar of Timely Reminders for Managing Forages and Pasture for Livestock

The table below contains helpful notes and recommendations for activities that pastured livestock producers should consider implementing throughout the calendar year. Broken into a table of monthly tasks, this information is intended both to help conservation planners create robust, usable grazing plans for customers, as well as to provide helpful material for pasture managers' use. Included are valuable cues for timely forage establishment, management, lime and fertilization, weed and pest control, conserving forages in hay and/or silage, as well as techniques to protect pasture resources, manage livestock forage use, and livestock health.

JANUARY	
Feed requirements	Determine animal feed requirements for the year (about 5-6 tons of hay equivalent/cow-calf pair) and outline a 12 month forage production and use plan to meet the needs.
Fertilization	Lime may be applied on sod during this month, however, do not apply Nitrogen to any pastures since growth rate is slow and potential leaching loss is high.
Overseeding	Decide which fields will be reseeded or overseeded during late winter and early spring; take soil samples for testing and arrange for supplies for spring planting.
Sources of seeds/sprigs	Locate sources of hybrid bermudagrass sprigs for planting in the spring. Certified sprigs or seed will minimize the possibility of getting common bermuda and other "weedy" species.
Stockpile	To get maximum use of stockpiled fescue, restrict the grazing area (with electric cross fencing) so that the forage is used in one to three days. Utilization of existing forage can range from 85% on one-half day periods to less than 50% on 10-14 day graze periods.
Weeds	Keep a record of winter weed problems so that control measures can be taken next spring and summer; also consider heavy stock density or Mob Grazing to control some weeds. This is the last month that some herbicides may be used on legumes because of label restrictions.
Winter annuals	Winter annual pastures that were planted on a prepared seedbed may be severely damaged if animals trample them when the soil is wet. Allow calves first priority to these high quality annual pastures.

Winter grazing	If winter pasture is limited, feed hay in the pasture or allow cows to graze every other day. The priority for limited pasture forage is for (1) calves which can creep graze, (2) stockers, (3) nursing cows, and (4) dry cows.
FEBRUARY	
Burning	Burn or closely mow warm-season grass residues (especially tall native grasses and perhaps bermuda) in late February or early March.
Fertilization	Consider applying nitrogen to cool-season grasses in late February to stimulate early spring growth. Do not exceed rates listed on nutrient management plan or in the soil test report. Do not apply more than 30 lbs. /acre if legumes are present and/or desired. If applying more than 75 lbs. consider applying half now and the remainder in late August to early September to stimulate fall growth.
Fertilization	Lime fields, as needed, that will be prepared for spring plantings.
Grass tetany	Supplement with high-magnesium mineral to combat grass tetany from lush winter forages.
Overseeding	Overseed legumes (white and red clovers, lespedeza, alfalfa) into closely-grazed (2 inches or less), well-limed grass pastures. Inoculate legume seeds or use pre-inoculated seeds.
Pasture design	To minimize forage trampling and waste, subdivide pastures so the length of grazing period is relatively short (1-3 days).
Weeds	Get equipment ready to control winter weeds in dormant bermudagrass fields or consider Mob grazing to graze the winter growth. It may be last chance to control winter annuals in dormant alfalfa fields.
MARCH	
Alfalfa	If pure stands of alfalfa are to be planted on prepared seedbeds during the spring, consider using a preemergence herbicide because weeds will be more troublesome than during autumn plantings.
Controlling competition in overseedings	Harvest or graze winter crops (cereals, ryegrass, and prairiegrass) which were overseeded onto bermuda or other summer crops. Try to minimize the shading by the overseeded crop during the early "green-up" of the summer crop in April. Bermuda can be thinned significantly by allowing winter crops to go to full head stage during April-May.
Establishment management	Begin grazing of fall-planted fescue, orchardgrass, and clovers when growth reaches about 6 inches, but do not graze this young stand of grass below 3-4 inches.
Fertilization	Apply nitrogen, (if not already applied), phosphorus, and potassium (if needed) to the cool-season grasses to increase spring production. If you plan to apply less than 75 lbs N/acre for the year to cool season

	grasses, consider putting most of it on in August-early September to encourage more autumn-fall growth.
Fertilization	Limestone, phosphate (P2O5) and potash (K2O) may be applied on most soils at in any time during the year, however, on sandy textured soils potash is often split with some being applied in spring and some in mid summer. K is subject to leaching much like N and S on sandy textured soils.
Grass tetany	Grass tetany may be a problem as rapid grass growth and cool, wet weather prevails. Supplement with high-magnesium mineral to combat grass tetany.
Harvest smallgrains	Harvest smallgrains for silage or hay between the boot and soft dough stages of growth. For cereal rye and Triticale (boot stage) this may be in late March and for the others it will likely be in April. I
Hybrid bermuda	Plant weed-free bermudagrass sprigs before new shoot growth emerges. Some hybrids are best planted from clippings of mature above ground stems (Tifton 85, Vaughn). Plant seeded varieties of bermuda later in April or May.
Legume nodules	Check for effective nodules on legumes planted the previous fall. Consider "emergency" application of rhizobia to the stand if it is apparent that sliced open nodules are not "rare beef-steak" in color or the outside is white or greenish in color.
Manure	Scatter manure droppings in pastures where hay was fed or where cattle congregated during the winter. Spreading manure is not needed if it is not "stacked" up like a pancake.
Overseeding	Overseeding legumes (white & red clovers, lespedeza and alfalfa) into grass pastures should be completed as soon as possible. Keep the grass grazed below 4-inches during the first month following overseeding, and do not let it reach more than 6-8 inches during the April-May period.
Weeds	Control winter annual weeds in dormant bermudagrass with herbicides or by burning or very close grazing with high stock density.
APRIL	
Alfalfa	Scout alfalfa for weevil and consider controlling by judicious grazing management, early harvest or insecticide.
Bermuda sprigs	Plant weed-free bermudagrass sprigs before new shoot growth emerges. Some hybrids are best planted from clippings of mature above ground stems (Tifton 85, Vaughn). Plant seeded varieties of bermuda in April or May.

Controlling competition in overseedings	Harvest or graze winter crops (cereals, ryegrass, and prairiegrass) which were overseeded onto bermuda or other summer crops to minimize shading during the spring "green up" in April. Bermuda can be thinned significantly or almost completely killed by allowing winter crops to go to full head stage during April-May.
Establishment management	Fall planted fescue, orchardgrass, and clovers should be established well enough to graze from 6-8 inches down to 2-4 inches. If clover or alfalfa is in the new plantings, do not let the grass shade them more than a couple of weeks. Lack of light reaching the growing points of clover is one of the main practices that cause poor survival. Keep the grass grazed below 4-inches during the first month following overseeding, and do not let it reach more than 6-10 inches during the April-May period.
Fertilization	If cool season grasses have not received fertilizer it is getting late and you may want to hold the amount of N to 50 lbs/acre or less; additional N could/should be applied in late August to spread seasonal distribution of growth for the year. Limestone, phosphate (P2O5) and potash (K2O) may be applied on most soils any time during the year, however, on sandy textured soils consider splitting the Potash with some applied in spring and some in mid summer. K is subject to leaching much like N and S on such soils. Fertilize warm season grasses (bermuda, bahia, dallis, switchgrass, bluestems) as soon as the green leaves emerge in spring.
Grass tetany	Grass tetany may be a problem as rapid grass growth and cool, wet weather prevails. Consider using supplement with Mg.
Grazing management	Growth of pasture plants will be rapid during this period and one may be able to rotate back onto previously grazed pastures in 10-18 days. Strive to graze pastures between 6-10 inches back to 2-4, and when it appears that some pastures have too much growth for efficient grazing consider skipping them until they can be harvested as hay/silage.
Harvest management	For best compromise between yield and quality of hay, harvest fescue, orchardgrass and other cool season pastures or hay fields as soon as the seed heads begin to emerge from the flag leaf, but certainly before flowering ends. Harvest alfalfa in the flower bud stage (before flowering begins). Harvest smallgrains for silage or hay between the boot and soft dough stages of growth. For cereal rye and Triticale (boot stage) this may be in late March and for the others it will likely be in April.
Native grasses	Native warm season grasses like Switchgrass, gamagrass and bluestem may be grazed when they reach 16 inches height, but do not graze below 6-8 inches.
Toxic fescue	Toxic endophyte containing fescue fields which are targeted to be replanted to endophyte-free or "non-toxic endophyte" fescue,

	orchardgrass or other species should not be allowed to produce seeds during April-June. Such seeds will result in volunteer seedlings of toxic endophyte infected fescue the subsequent fall.
Warm season plantings	Plant bahia grass, crabgrass, switchgrass during mid-April or May, but be aware that warm season weedy grasses are usually very competitive with these forage seedlings.
Winter annuals	Winter annual pastures should be completely used before grazing begins on other pastures, which may be harvested as hay.
MAY	
Fertilization and manure	Do not apply nitrogen to cool season grasses between mid-May and early August. However, if it is necessary to apply effluent or litter during this period hold the N level to less than 30 lbs. /acre per month. High temperatures and high N on cool season grasses can result in lots of disease and death. Fertilize warm season grasses with nitrogen after each cutting or every six to eight weeks on pastures. Rates of application vary significantly for hay and pasture, even though timing may be similar. Remember that the grazing animal is returning 80-95% of the nutrients they are eating back to the ground surface. The manager has control of where much of that returned "manure & urine fertilizer" is deposited by controlling the grazing and lounging patterns of the animals through fencing and drinking water distribution. An animal eating 25 lbs of dry forage per day for 365 days may be consuming the following "fertilizer equivalent" 180-50-200 (N: P2O5-K2O), therefore it is an economical decision to control where that animal deposits those nutrients. One can pay for a lot of fencing if it provides a way to better distribute those manure and urine nutrients over the farm and away from the surface waters-ways.
Harvest management	Attempt to harvest hay before seed heads contain mature seeds; in fact, the best compromise between yield and quality will occur when the fescue/orchardgrass is between boot and flowering stage of growth. Harvesting at these stages also stimulates the plant to regrow rapidly. On many farms with mostly cool season grass like fescue and orchardgrass, 20 to 40% of the acreage may be harvested at least once during May; this assumes that the farm is stocked to supply a 12-month feed supply for the herd.
Hybrid bermuda	Hybrid bermudagrass sprigs may be planted this late, but soil moisture must be immediately available to avoid desiccation of the sprigs the first day or two following planting. It will be essential to control weeds with careful grazing, mowing or chemicals.

Lounging/shade management	Restrict the free access and lounging of animals in riparian areas during hot weather by offering alternative off site pastures or drinking water sites, shade and minerals some significant distance from the sensitive zones. Do not allow animals to graze in the riparian zones when soils are wet. "Flash" grazing of riparian zones for very short periods and only when soil is firm can provide forage while not adversely hurting the riparian area.
Pasture design	Subdivision of pastures and frequent rotation of animals on pastures is more important to the pasture during dry weather than many other times of the years. Managers who have the farm divided into several pastures will have the best opportunity to capitalize on rapid regrowth following a drought because the plants that have not been grazed below the target height (2-3 inches for fescue and orchardgrass and 1.5-2 inches for bermuda; 6 inches for millet and sudangrass) will be healthy enough to respond to moisture when it returns. Plants grazed below their favored target height cannot respond to moisture quickly because they have very few green leaves remaining, and the reserve energy level in the storage organ is low. Rapid growth following any type of stress (moisture, temperature, severe grazing, severe cutting, trampling) depends on the amount of green leaves and reserve energy in the stem base, roots and underground stems.
Warm season plantings	Plant warm season grasses such as crabgrass, seeded types of bermudagrass, gamagrass, switchgrass, indiangrass and bluestem. Summer grassy weeds will be the biggest challenge to success. Dormant seeds of the native grasses are alive, but they will not likely germinate this season, so treat the seed to break the dormancy or adjust the seeding rate accordingly. Plant summer annuals (millet, sudan, sorghum-sudan, soybeans, forage sorghums) at two week intervals to stagger the forage availability. Consider brown Mid-Rib (BMR) cultivars for improved digestibility and animal performance. Millets usually do better on Sandy soils than on clay based soils, whereas sudan and sorghum-sudan hybrids usually do better on clay and clay loam soils.
Weeds	Control all kinds of weeds while they are small (<3 inches) by a high stocking density of animals on small areas for a one to two day grazing period. If animals cannot be used to eat the weeds because of toxicity or mowing cannot accomplish control, then use the appropriate herbicide before weeds reach the late stages of maturity. Remember that the nutritive value of many weeds is as high as that of the "desired" forage plant; if an animal eats a weed and it is not toxic then it is well used by the animal.
Grass tetany	Supplement grazing animals with high-magnesium mineral to combat grass tetany.

JUNE	
Establishment management	If seeded bermudagrass was planted in May or will be planted this month, competition from grassy plants like crabgrass, broadleaf signalgrass, goosegrass and foxtails, will likely be very competitive during the establishment phase. The only way to control this competition is with mowing or grazing with a high animal stocking density for a few days. It is best to mow or graze before the competiting grasses reach 8-10 inches tall, but do not cut or graze the developing bermuda seedlings below about 2-3 inches during this early establishment phase.
Fertilization	To stimulate established warm-season grass yields, maintain agronomic application rates of N in a timely manner. If soil moisture becomes limited, then consider carefully the amount of N to be applied. Inorganic N is usually used or leached or otherwise unavailable after about 6-8 weeks. Take soil samples from fields that will be overseeded or planted during the autumn. Apply limestone as far in advance of planting as possible, especially if pH is less than 5.5.
Grazing management	When plants are under severe moisture stress be aware of potential for nitrate toxicity, especially with plants growing on sites receiving high levels of nitrogen. If soil moisture does become limiting and growth of grasses slows significantly or it stops, do not allow animals to continue to graze the plants below their target "stop grazing" heights. A plant that is shorter than it should be will not respond to favorable moisture when it does return. In addition, cattle grazing grass that is below 2-3 inches tall are not able to get their daily needs; so put them on "sacrifice area" and feed hay or other materials. Grazing height and frequency affects root development as much or more than top growth. Can you imagine how much difference those plants would respond to short term or long term droughts? Overgrazing can weaken stands and reduce yield potential. Restrict the free access and lounging of animals in riparian areas during hot weather by offering alternative off site pastures or drinking water sites, shade and minerals some significant distance from the sensitive zones. Do not allow animals to graze in the riparian zones when soils are wet. "Flash" grazing of riparian zones for very short periods and only when soil is firm can provide forage while not adversely hurting the riparian area.
Warm season plantings	Plantings of summer annuals such as millet, sudangrass, soybeans, cowpeas may still be made this month, but yield expectations may be 20-40% less than if planted in May. These late plantings will utilize less

	N and other nutrients than earlier plantings because of their reduced yields.
Weeds	Control summer pasture weeds before they get too tall and mature; herbicides, mowing or high stocking density grazing will be useful in controlling most weeds.
JULY	
Fertilization	Sample soils and apply lime on fields to be planted to forage crops in the autumn or fall. Decide which fescue fields will be fertilized in late August and early September for stockpiling or accumulating during the autumn period. The cheapest source of winter feed for most cattle is autumn accumulated growth of cool season grasses like tall fescue and bluegrass or dallisgrass or bermuda.
Grazing management	July weather can put some stress on pastures and hay fields, especially cool season plants like fescue, orchardgrass, bluegrass and clover. Having the farm subdivided sufficiently to allow plant "protection" from grazing can have a significant positive influence on how plants respond when more favorable moisture and temperature return. The target stubble height of these plants following grazing is about 3-4 inches during this period. Grazing closer may not "kill" the plants, but it will certainly reduce the amount of growth one will see the next month or two. Don't try to avoid feeding hay in summer when grass is at target stop grazing height or it will adversely affect growth during the autumn/fall period. July is late for planting summer annuals or bermuda, but with sufficient water it is possible to get stands established. Sprigged bermuda will more likely cover the soil if broadcast, disked, rolled and irrigated immediately and perhaps repeatedly over the subsequent two months. Seeded bermuda should be planted on the surface of a firm prepared seedbed and pressed into soil with a roller. Good stands are possible if water is available and weedy competition is held to a minimum. Broadleaf weeds may be controlled with herbicides if desired, but grassy weeds (crabgrass, goosegrass, and foxtails) will need to be mowed or "judiciously" grazed to minimize the shading of the bermuda seedlings. Hold the N to about 40 lbs/acre until the ground is covered. Do not apply N after September, as this can stimulate too much top growth during the late autumn and may discourage the "hardening off" necessary prior to killing frosts.

Harvest management	Maintain harvesting frequency of all crops to capture the best compromise between quality and yield of hay. As a general rule, quality of forage declines rapidly after the growth is 4-5 weeks of age. Get silage harvesting equipment ready (sharpen knives, purchase plastic for covering silo) so there will be no delays when the crop is ready. Every day that silage is not covered can adversely affect silage quality and spoilage.
Nitrates and prussic acid poisoning	Hot, dry weather can result in nitrate and prussic acid poisoning of animals grazing stunted, highly fertilized summer annuals such as sorghum, sudan or sorghum-sudan. Even though bermuda is not normally an accumulator of nitrates, it is often high in nitrates where excessive amounts of nutrients have been applied from confinement animal manure & urine. Many broadleaf "weeds" are more prone to accumulate nitrates than the forage grasses. Therefore it's a good idea to make some notes on potential problem bales or areas of the pasture. Forage testing is a good way to document the level of nitrate in the feed.
Overseeding	Seedbed preparation of old sods should be completed several weeks prior to autumn-fall plantings so clods and the root mass have time to decompose and "settle" before planting new seeds. Small seeded forages usually are best planted only ¼ to ½ inch deep and a rough or "loose" seedbed is not good for depth control of these small seeds.
Stockpile	Decide which fescue pastures will be stockpiled for winter grazing.
Warm season plantings	If good stands of summer annuals are established at this late date expect yields to be 50%-70% of what they would be when planted in May.
AUGUST	
Fertilization	Apply limestone to fields if pH is below 5.8; especially for those to be overseeded with legumes next spring. The proper pH can improve the response of plants to other nutrients such as N, P, and K.
Grazing management	If soil moisture is limiting the growth of pasture plants and they have been grazed to the target height (about 2-3 inches for fescue and bermuda) it will be more economical to confine the animals to an area where hay can be fed. In order for pasture plants to respond to moisture and favorable growing conditions they must have some leaf area remaining. Do not continue to graze the whole farm in hopes of allowing the animals to "pick and choose" what they want; this will just put the plants at a disadvantage and perhaps even speed up potential death of some plants.

Harvest management	Use kernel milk line, black layer, shuck browning, lower leaves browning as indicators of when corm is ready for ensiling. The ideal dry matter content of the whole plant is in the range of 30-40%; for trench and above ground silos the 30-34 % range is ideal.
Legume nodulation	Inoculate legume seeds with the specific rhizobium bacteria or use pre-inoculated seeds. If you forget to inoculate or if the inoculant is not viable you may have to supply the seedlings with 20-30 lbs of N/acre until viable rhizobium can be applied. Carefully dig seedlings after 6 weeks of age to inspect of "pinkish" or "beef-steak red" nodules on the roots.
Overseeding	If legumes are to be sod-seeded into grass pastures in the autumn, plan the grazing program so those pastures can be grazed close (1 to 2 inches) by planting time. Early plantings (prior to cool nights in October) may require control of grasshoppers and crickets because they can eat the first developing leaves causing death of the seedling.
Planting and establishment	If planting on prepared seedbeds, plant on time so seedlings will be large enough to survive subsequent winter freezes, especially on clay and silt dominant soils. Grasses tend to survive freezing damage when they have 2-3 leaves whereas legumes need to have 5 or more true leaves to minimize freeze damage.
Stockpile	Pastures to be stockpiled for winter grazing should be fertilized with nitrogen (50 to 80 pounds/acre) around August 1-15 in the mountains and between August 15 and September 1 elsewhere. It probably best to apply even a complete fertilizer in the autumn, especially on non-sandy soils. Grazing animals should be removed from the pastures until other pastures are used. If grass supply is limited during the autumn one may graze the fields to be stockpiled, but try to not graze below 3-4 inches as a way to encourage as much fall growth as possible. Remember that it costs about twice as much to feed hay to an animal each day as it does to graze the same amount of dry matter.
SEPTEMBER	
Feed requirements	Plan the winter "feed budget" by making an inventory of forage supply and animal requirements. Deficiencies may be addressed by fall Fertilization of fescue or other cool season grasses, purchasing hay or planting more acres of winter annual pasture.
Fertilization	Fertilize and lime cool-season grasses, but it's not usually advisable to apply more N to warm season crops because night temperatures are reducing plant growth this time of year. In fact, adding significant amounts of N to bermuda this time of year can have an adverse effect

	on plant health, especially if no other crop is present to take up the nutrients. Fall application of P and K is a good thing on soils other than sands or sandy loams. It spreads out the work load and favors root development in plants, especially cool season plants.
Grazing management	Keep the grazing pressure on the summer grasses (bermuda, crabgrass, millets, sudangrass, bahia and dallis) and completely use them before grazing cool-season forages. All of these warm season grasses can be grazed close after they stop growing when night temperatures drop below 55 degrees.
Insect damage	Scout for insects (armyworms, grasshoppers, crickets and grubs) on established and seedling stands of forages. Grubs and armyworms can destroy new seedlings quickly, so scout every few days; sometimes an infested field can be destroyed in a day or two.
Overseeding	Plant cool-season legumes (white clover, red clover, and alfalfa) into grass sods if soil moisture is available. Often insects are abundant during hot dry autumns, therefore consider an insecticide at planting or consider waiting until October when insect pressure declines due to cool night temperatures.
Stockpile	Pastures to be stockpiled for winter grazing should be fertilized with nitrogen (50 to 80 pounds/acre) about August 1-15 in the mountains and between August 15 and September 1 elsewhere. When September arrives one may still apply the N, but as one delays beyond September it makes economic and environmental sense to reduce the amount of N to 30-50 lbs/acre. The cool temperatures will limit the potential response.
Toxic dallisgrass	Watch for dallisgrass poisoning (also known as Dallisgrass staggers) which can occur several days after cattle ingest a significant amount of dallisgrass seed heads infected with an "ergot-like" fungus called Claviceps paspali. Clipping the seed heads prior to grazing can minimize the problem. Removing animals for the infected plants will usually abate the problem.
Winter annuals	Plant winter annuals on prepared seedbed for earliest fall grazing. No-till planting can be successful, but the growth will not usually be ready to graze until early winter or spring. Stands on prepared seedbeds will be ready several weeks before those planted into sod. When winter crops are planted into sod in September the existing permanent grass is very competitive for limiting moisture, therefore it is often good to suppress the existing grass growth by disking, ripping or a selective use of a herbicide. The existing sod should be less than 2-inches tall at time of drilling to minimize competition with the new seedlings.

OCTOBER	
Fertilization	There are still some options if you did not get fescue fertilized in September or if you just now realized the cost benefit of grazing stockpiled fescue? It is late to be applying N to fescue, but it is not toooo late. And as anyone who grows crops know, "late" is relative and "it depends" on what kind of weather we have for the next two months. Normally, one would want to hold the N applied in October to about 30-40 lbs/acre. When the soil moisture is not limiting and the temperatures are remaining above 50oF at night and in the 55oF to 80oF range in the daytime one could expect fescue to grow about 15 to 25 lbs/acre per day.
Legume nodulation	Check alfalfa plantings made earlier this fall for proper nodule formation. If nodules have not developed on seedlings, an "emergency" application of inoculants can be successfully made in October, March, or April. If one cannot get the inoculant applied then it would be advisable to apply 20-30 lbs of N/acre to help the plants transition until proper nodulation takes place.
Nitrates and prussic acid poisoning	Prussic acid poisoning of grazing animals is a potential for plants like Sudan grass, sorghum-Sudan grass or Johnsongrass after the first killing frost. There are always questions about the definition of a "killing frost", and as a rule the temperature has to get below about 26 to 28 oF to actually freeze the cell contents of the leaf tissue. Therefore it is suggested that one be cautious about grazing these plants anytime the temperatures drop below 32 oF. Often scattered frost in an area causes enough concern that it is best to keep animals out of pastures until the leaves begin to turn yellow or light brown. The danger of toxicity is actually only during the first 72 hours after the plant cells are frozen, therefore it is safer to wait until plants show definite signs of wilt and browning before grazing.
Overseeding	Finish soon the overseeding of warm-season grasses (bermuda, crabgrass bahiagrass) with winter annuals such as small grains, ryegrass or annual legumes. Depending on soil moisture and the temperature, seedlings may be ready to graze in December. However, do not plan for more than 400 to 800 lbs of dry matter production per acre by late December. What about overseeding fescue fields? Overseeding fescue pastures that have more than 60% ground cover is usually not an economical venture, especially if the soil fertility and N has not been addressed. This is so because winter annuals and fescue have basically the same growth requirements, so there is no reason to expect them to

	germinate and grow better than properly fertilized and grazed fescue. However, if the stand is so thin that there is not enough fescue plants to respond to management, overseeding something will likely provide more growth during the winter and spring. Whether one over seeds more fescue or a winter annual will depend on the long-term goals for that field. Annuals have to be replanted every year, but they fill a void if one wants to convert a pasture to another species or if one wants short term forage in the transition period to another crop. Plant cool-season legumes into grass sods by October 20 (Piedmont & Mountains) and perhaps a couple of weeks later elsewhere. It is risky to plant legumes on prepared a seedbed at this late date, especially on clay soils that are subject to heaving during freezes. The seedlings need to have 4-7 true leaves on them to minimize heave damage on such soils.
NOVEMBER	
Feed requirements	As winter feeding begins, separate the herd into groups depending on nutrient needs so the feed supply (hay or pasture) can be matched to animal requirements. All animal groups do not deserve the same quality or amounts of hay and partitioning it can meet animal needs and still use all available sources on the farm.
Fertilization	Do not graze fall-planted crops until growth reaches 6 to 8 inches height, and do not graze below their target stop grazing height. Target "stop grazing" height on smallgrains is 3-4 inches if one wants the most rapid regrowth following grazing. Annual ryegrass and fescue may be grazed to 2-3 inch stubble, but remember plants regrow quicker if they have green leaves on them at all times. In other words, one may not "kill" the grass by grazing close, but it will certainly slow down the rate of growth following grazing; pay now or pay later. Winter annual pastures that were planted early (in September) may be responsive to an additional application of nitrogen (30 to 40 pounds/acre) but do not exceed nutrient management plans. Whether this is a good idea or not depends on how much N has already been applied this autumn and the number of days with temperatures above 60˚ F between now and December 25th.
Grazing management	When grazing cool season grasses during November it is best to leave 3-4 inches of stubble in order to encourage rapid regrowth when the temperature becomes favorable. Anyone concerned about the cost of feeding cattle knows that every day an animal can feed itself by grazing will save 50% or more as compared to using hay. Anything that can be done to extend the

	grazing season or to encourage more growth in pastures is usually a reasonable and economical thing to do. This time of year managers can favor growth by not grazing below 2-4 inches so that green leaves are present at all times. Since animals don't know what is good for the plant it is to the manager's advantage to control how close the animal grazes, which requires controlling the time animals have to graze and lounge on a specific pasture area.
DECEMBER	
Feed requirements	Map a monthly forage demand for specific classes of livestock. Total annual needs can be estimated by knowing each cow requires 25 to 30 pounds of hay equivalent per day. Document a monthly forage demand for specific classes of livestock. Yearly animal needs can be estimated by knowing that each cow requires 25 to 30 pounds of hay equivalent per day. Guessing at bale weights can often result in significant miscalculations on what the animals are actually getting. Based on some "guesses" that farmers and others have done on bale weights at various field days many people will under feed the herd by 10 to 15 %. Some of us have tended to think the bales weigh about what the baler manual suggests as "average weight". Also realize that the moisture content of bales may range from 12% to 22%; animals requirements are based on dry matter.
Grazing management	Limit the grazing of winter pastures to below their target grazing stubble height by feeding hay on pasture or restricting acres available to animal. Strive to resist the temptation of grazing "every last bit" of grass during the winter months. There are a number of good reasons to maintain 2-4 inches of stubble and or some dead leaf residue on the soil surface throughout the winter months. Realize that cattle cannot really meet their nutrient needs when they are "forced" or "allowed" to continue grazing grass below 3 inches; they are actually putting the plant in a poor physiological state for subsequent regrowth when weather conditions become favorable.
Hay feeding	Feed hay that is stored outside before feeding hay that is stored inside.
Warm season plantings	If you plan to plant switchgrass or other native warm season grasses in April or May, buy seed this month and store at room temperature or slightly higher to break seed dormancy. Dormant seeds of switchgrass and gamagrass may be planted during December and January with the expectation of reasonable stands the subsequent summer, especially for sites used for wildlife, field borders and riparian areas.

Weeds	Weed control in fall plantings of alfalfa and other legumes should be completed between now and January 15, depending on herbicide selection.