

Table 1: NESARE PLANTING & HARVESTING INFORMATION: 2011

| Rotation | Crop | Variety | Date of planting | Date of harvest / termination | Seed rate (per acre) | Seed depth (in) | Row spacing (in) | Maturity | Transgenic Traits |
|-------------------|--|--|--|------------------------------------|---------------------------|-----------------|------------------|--------------------|-------------------|
| Forage Rotation | Alfalfa & Orchard-grass (fall plant 2010 - Yr 1) | Alfalfa: Genoa Orchardgrass: Extend | Aug 28, 2010 Reseed III & IV: Apr 22 I & II: Apr 26 | Cutting: 6/3, 7/1, 8/1, 8/31, 11/2 | alf: 10 lb grass: 4 lb | 1/4-1/2 | 7.5 | | |
| | Alfalfa & Orchard-grass (Yr 2) | Alfalfa: Genoa Orchardgrass: Extend | Aug 15, 2010 | Cutting: 6/3, 7/1, 8/1, 8/31, 11/2 | alf: 10 lb grass: 4 lb | 1/4-1/2 | 7.5 | | |
| | Alf & Og (fall plant 2011) | Alfalfa: Genoa Orchardgrass: Extend | Aug 24 | N/A for 2011 | alf: 10 lb grass: 4 lb | 1/4-1/3 | 7.5 | | |
| | Canola | Witchita | Sept 16, 2010 | July 5 | 6.5 lb | 3/4 | 7.5 | | |
| | Canola (fall plant) = rye instead | Aroostock | Rye: Oct 10 | will be burned down in spring | 120 lb | 1-1.25 | 7.5 | | |
| | Corn Silage before wheat | TA290-08 | May 25 | Sept. 13 | 35 k | 1.5 | 30 | 89 _{CRM} | LL |
| | Corn Silage before canola | TA290-08 | June 3 | Sept. 13 | 35 k | 1.5 | 30 | 89 _{CRM} | LL |
| | Hairy Vetch + Oats (fall plant 2010) | HV: Auburn (AU) Oats: Blaze | Sept 1, 2010 | Killed: May 12, 2011 | HV: 20 lb oats: 20 lb | ≤1 | 7.5 | | |
| | Hairy Vetch + Triticale (fall plant 2011) | HV: Auburn (AU) Triticale: Trical 815 | Sept 1 | to be killed in spring | HV: 30 lb trit: 30 lb | ≤1 | 7.5 | | |
| | Red Clover | Freedom | Spring 2010 | Killed: May 12, 2011 | 12 lb | 3/8 | 7.5 | | |
| | Red Clover | Freedom | Apr 21, 2011 | to be killed in spring | 12 lb | 3/8 | 7.5 | | |
| | Winter Wheat | FS 801 [SRW] | October 17, 2010 | July 14 | 120 lb | 1-1.25 | 7.5 | | |
| | Winter Wheat | FS 801 [SRW] | Oct 11 | to be killed in spring | 120 lb | 1-1.25 | 7.5 | | |
| Corn-Soy Rotation | Corn Grain | Pioneer 35F48AM | June 1 | | 32 k | 1.5 | 30 | 105 _{CRM} | HXX, LL, RR2 |
| | Soybean | Growmark HS32A90 | June 7 | | 200 k | 1-1.5 | 7.5/30 | 3.2 | RR |

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|----------------|---|--|---|--|--|-----------------|------------------|--------------------|-------------------|
| Grain Rotation | Alfalfa (establish)/ Yr 1 | Genoa | Apr 22 | Cutting: 6/20, 8/8, 10/7 | 18 lb | 1/4-1/2 | 7.5 | | |
| | Alfalfa (Yr 2) | Genoa | April 15, 2010 | Cutting: 6/3, 7/1, 8/1, 8/31, 11/2 | 18 lb | 1/4-1/2 | 7.5 | | |
| | Alfalfa (Yr 3) | Genoa | April 15, 2010 Killed: Aug 17, 2011 | Cutting: 6/3, 7/1, 8/1 | 18 lb | 1/4-1/2 | 7.5 | | |
| | Triticale, Peas, Alfalfa, & Orchard-grass (establish)/ Yr 1 | Triticale: 718 Peas: 40-10 | Apr 22 | Cutting: 6/20, 8/8, 10/7 | trit: 30 lb pea: 30 lb alf: 10 lb grass: 4 lb | 1/4-1/2 | 7.5 | | |
| | Alfalfa & Orchard-grass (Yr 2) | Alfalfa: Genoa Orchardgrass: Extend | April 15, 2010 | Cutting: 6/3, 7/1, 8/1, 8/31 | alf: 10 lb grass: 4 lb | 1/4-1/2 | 7.5 | | |
| | Alfalfa & Orchard-grass (Yr 3) | Alfalfa: Genoa Orchardgrass: Extend | April 15, 2010 Killed: Aug 17, 2011 | Cutting: 6/3, 7/1, 8/1 | alf: 10 lb grass: 4 lb | 1/4-1/2 | 7.5 | | |
| | Canola & Canola+Oats | Canola: Witchita Oats: Blaze | Sept 11, 2010 | July 5 | can: 6.5 lb oats: 20 lb | 3/4 | 7.5 | | |
| | Canola & Canola+Oats (fall plant) | Canola: Witchita Oats: Blaze | Sept 14 | will be cut in spring | can: 6.5 lb oats: 20 lb | 3/4 | 7.5 | | |
| | Corn Grain | Pioneer 35F38 | May 26 | | 32 k | 1.5 | 30 | 105 _{CRM} | none |
| | Soybeans | Growmark HiSoy 2766 | May 14 (SH) June 8 (SH) replant May 31 (RH) | Oct 25 | 200 k | 1-1.5 | 7.5/30 | 2.7 | RR |
| | Rye | Aroostock | Sept 22, 2010 (Ca, R) Oct 24, 2010 (R,S,R) | RSR/SH: May 6 Cg,R: May 6 RSR/RH: May 12 | 120 lb | 1-1.25 | 7.5 | | |
| | Rye (fall plant) | Aroostock | Sept 21 (Ca, R) Oct 26 (R,S,R) | to be killed in spring | 120 lb | 1-1.25 | 7.5 | | |

Table 2: NESARE NUTRIENT MANAGEMENT: 2011 (Green manure [RC and HV] and cover crops [Rye] do not receive additional nutrients.)

| Rotation | Crop | Manure App Date | Actual Rate of Manure App | Date of crop planting | Fertilizer at Planting | Sidedress N | POST Fertilizer App Date | POST Rate of Fertilizer Application |
|-----------------|---|--|--|--|--|-----------------|---|--|
| Forage Rotation | Alf & Og - Yr. 1 (Planted Fall 2010) | | | Aug 28, 2010 Reseed III & IV: Apr 22 I & II: Apr 26 | | | Nov 8 | #150; 0-0-60 |
| | Alf & Og - Yr. 2 | | | Aug 15, 2010 | | | Nov 8 | #150; 0-0-60 |
| | Alf & Og (Planted Fall 2011) | | | Aug 24 | | | Spring 2012 | TBD |
| | Canola (planted Fall 2010) | | | Sept 16, 2010 | | | Apr 15 | AS: #100, 21-0-0-24 Urea: IM 90 lb/A = 41.4 lb N/A Urea: BM 150 lb/A = 69 lb N/A |
| | Canola (will be planted Spring 2012) | Oct 11 (into rye as a cover crop before spring can) | BM: 22.3 T/A IM: 23.1 | Rye: Oct 10 | | | Spring 2012 | TBD |
| | Corn Silage (before wheat) | May 10: I-III May 11: IV (South end (15') of E331 was BM instead of IM) | BM: 20.0 T/A IM: 20.7 T/A | May 25 | #130, 13-25-8-8 30 lb N/A = 10 gal. UAN | none this year. | May 25 | #100; 0-0-60 |
| | Corn Silage (before canola) | June 1 | BM: 20.4 T/A IM: 20.7 T/A | June 3 | #130, 13-25-8-8 30 lb N/A, liq UAN | none this year. | May 25: III, IV May 26: I,II | #250; 0-0-60 |
| | Winter Wheat (planted Fall 2010) | | | October 17, 2010 | | | Apr 30 | #300; 0-0-60 #400; 21-0-0-24 |
| | Winter Wheat (planted Fall 2011) | | | Oct 11 | | | Spring 2012 | TBD |

Table 2 (cont.): NESARE NUTRIENT MANAGEMENT: 2011 (Green manure [RC and HV] and cover crops [Rye] do not receive additional nutrients.)

| Rotation | Crop | Manure App Date | Actual Rate of Manure App | Date of crop planting | Fertilizer at Planting | Sidedress N | POST Fertilizer App Date | POST Rate of Fertilizer Application |
|-------------------|--|-----------------------------|--|-----------------------|--|-----------------|--------------------------|--|
| Grain Rotation | Alf (SH) - Yr. 1 | | | Apr 22 | | | Oct 11 | #350; 0-0-60 |
| | Alf (SH) - Yr. 2 | | | Apr 15, 2010 | | | June 13 Nov 8 | #250; 0-0-60 #250; 0-0-60 |
| | Alf (SH) - Yr. 3 | | | Apr 15, 2010 | | | June 13 | #250; 0-0-60 |
| | Alf & Og, Trit & Peas (RH) Yr. 1 | | | Apr 22 | | | Oct 11 | #350; 0-0-60 |
| | Alf & Og (RH) Yrs. 2 | | | Apr 15, 2010 | | | June 13 | #250; 0-0-60 |
| | Alf & Og (RH) Yrs. 3 | | | Apr 15, 2010 | | | June 13 | #250; 0-0-60 |
| | Canola & Canola+Oats (Planted Fall 2010) | | | Sept 11, 2010 | | | Apr 15 | AS: #100, 21-0-0-24 Urea: 150 lb/A = 69 lb N/A |
| | Canola & Canola+Oats (Planted Fall 2011) | Aug 22 | BM: 22.7 T/A IM: 22.3 T/A | Sept 14 | | | Spring 2012 | TBD |
| | Corn Grain | May 11: I May 13: II-IV | IM: 18.6 T/A | May 26 | #130, 13-25-8-8 30 lb N/A, liq UAN | none this year. | | none this year. |
| Soybeans | | | May 14 (SH) June 8 (SH) replant May 31 (RH) | | | | none this year. | |
| Corn-Soy Rotation | Corn Grain | May 11: I* May 13: II-IV | BM: 20.3 T/A IM: 18.5 T/A | June 1 | #130, 13-25-8-8 30 lb N/A, liq UAN | none this year. | | none this year. |
| | Soybean | | | June 7 | | | May 26 | #200; 0-0-60 |

*Block I: For Corn Grain (Corn Soy) that had injected manure, Justin noted that the hose clamping was off and he has no way to know what rate actually went on. He said to pay close attention to the nutrient analyses for fall 2011 for that fall to see if #s are low or not. I excluded this block from the average for the manure rate until we sort this out.

Table 3: Estimate of Total N, P, and K (lb/A) Available to 2011 Corn & Canola from Animal Manure, Legumes and Fertilizers

| | Total estimated available N lb/A | Total P2O5 applied lb/A | Total K2O applied |
|---|---|--------------------------------|--------------------------|
| Corn Silage, after: | | | |
| Alfalfa&Orchardgr., Injected manure | 202 | 76 | 121 |
| Alfalfa&Orchardgr., Broadcast manure | 153 | 75 | 117 |
| Red clover or Hairy Vetch, Injected manure | 172 | 75 | 119 |
| Red clover or Hairy Vetch, Broadcast manure | 124 | 76 | 121 |
| Corn grain, after: | | | |
| Alfalfa, Injected manure | 194 | 72 | 110 |
| Alfalfa&Orchardgr., Plowed manure | 194 | 72 | 110 |

| | Total estimated available N lb/A | Total Manure P2O5 Application lb/A | Total Manure K2O Application lb/A |
|--|---|---|--|
| Canola (planted fall 2010) | | | |
| Canola Treatment | lb/A | lb/A | lb/A |
| Corn silage, Injected manure | 185 | 80 | 151 |
| Corn silage, Broadcast manure | 184 | 85 | 161 |
| Alfalfa&Orchardgr., plowed manure (RH) | 132 | 54 | 102 |
| Alfalfa&Orchardgr., injected manure (SH) | 130 | 51 | 97 |

Table 4: NESARE PEST MANAGEMENT INFORMATION: 2011

| Rotation | Crop | Date of planting | Seed Treatments | Pre-emergence Treatment(s) or Burn-downs | Post-emergence Treatment(s) |
|-----------------|---|-------------------------------------|---|--|--|
| Forage Rotation | Alfalfa and Orchardgrass (Year 1) | Aug 28, 2010 (reseed: Apr 22, 2011) | Alf - Mefenoxam fungicide | N/A | June 23: Warrior @ 3 oz/A to control leafhopper. |
| | Alfalfa and Orchardgrass (Year 2) | Apr 15, 2010 | Alf - Mefenoxam fungicide | N/A | June 23: Warrior @ 3 oz/A to control leafhopper. |
| | Alfalfa and Orchardgrass (Planted Fall 2011) | Aug 24 | Alf - Mefenoxam fungicide | July 13: Former canola plots were rotary harrowed to stimulate volunteer canola growth. Aug 8: Volunteer canola and weeds were sprayed with 22 fl oz Roundup Powermax and 16 fl. oz 2,4-DLVE. | |
| | Canola (Planted Fall 2010) | Sept 16, 2010 | None | none | none |
| | Canola (Planted Fall 2011) (Shifted to Spring 2012) | Rye planted: Oct 10 | | No burn-down necessary before rye was planted this fall. | |
| | Corn Silage (before wheat) | May 25 | Chlothianidin (Pocho 250), Captan, Allegiance, Trilex | May 6: Alfalfa+grass burned down with 32 fl oz. Roundup Powermax, 16 oz 2,4-DLVE, 8 oz Banvel, & AMS. | June 15: 29 fl oz/A Ignite (glufosinate), 0.33 oz/A Accent (nicosulfuron), and 0.33 oz/A Permit (halosulfuron) *Accent and Permit were added to control orchardgrass and nutsedge that was observed in all four blocks. |
| | Corn Silage (before canola) | June 3 | Chlothianidin (Pocho 250), Captan, Allegiance, Trilex | May 12: Red clover & hairy vetch burned down with 22 fl oz. Roundup Powermax, 1 pt 2,4-DLVE, 16 oz Banvel, & AMS. | June 29: 29 fl oz/A Ignite (glufosinate), 0.25 oz/A Accent (nicosulfuron), and 0.25 oz/A Permit (halosulfuron) |
| | Hairy Vetch + Oats (Planted Fall 2011) | Sept 1 | | Aug 17: Weeds burned down with 22 fl oz of Roundup Powermax and 16 fl oz 2,4-DLVE. | |
| | Red Clover | Apr 21 | None | none | none |
| | Winter Wheat (Planted Fall 2010) | Oct 17, 2010 | Difenoconazole & mefenoxam fungicides | none | May 3 (HV split-split plots only): Sprayed with Harmony Extra at 0.6 oz/A. |
| | Winter Wheat (Planted Fall 2011) | Oct 11 | Difenoconazole & mefenoxam fungicides | Oct 7: Orchard grass burned down with 22 fl oz of Roundup Powermax after corn silage harvest, before wheat was planted. | |

Table 4 (cont.): NESARE PEST MANAGEMENT INFORMATION: 2011

| Rotation | Crop | Date of planting | Seed Treatments | Pre-emergence Treatment(s) | Post-emergence Treatment(s) |
|----------------|--|--|--|--|--|
| Grain Rotation | Alfalfa (SH) (Establish- Year 1) | Apr 22 | Mefenoxam fungicide | none | May 25: 2 qt Butyrac (2,4-DB) herbicide. June 29: Warrior @ 4 oz/A to control leafhopper. July 21: Block IV only, SH plots "high mowed" by clipping sow thistle heads off. |
| | Alf+Og, Trit+Pea (RH), (Establish- Year 1) | Apr 22 | Alf - Mefenoxam fungicide | none | June 29: Warrior @ 4 oz/A to control leafhopper. |
| | Alfalfa (SH) & Alf+Og (RH) (Years 2 & 3) | Apr 15, 2010 | Alf - Mefenoxam fungicide | N/A | June 23: Warrior @ 3 oz/A to control leafhopper. |
| | Canola & Canola+Oats (Planted Fall 2010) | Sept 11, 2010 | None | See 2010 management chart. | none |
| | Canola & Canola+Oats (Planted Fall 2011) | Sept 14 | | Aug 17 (SH): Alf+grass burned down with 22 fl oz of Roundup Powermax and 16 fl oz 2,4-DLVE. Aug 23 (RH): Alf+grass moldboard plowed Aug 26 (RH): Alf+grass plot disced Sept 14 (RH): Alf+grass plot culti-packed | none |
| | Corn Grain | May 26 | Fludioxonil, mefenoxam, & azoxystrobin fungicides + thiamethoxam insecticide | May 6 (R,Cg): Rye burned down with 22 fl oz. Roundup Powermax & 1 pt 2,4-DLVE. May 26 (RH): Banded herbicides: 3 pt Prowl H2O, 1.67 pt Dual II Mag, 3 oz Callisto May 26 (SH): Broadcast herbicides: 3 pt Prowl H2O, 1.67 pt Dual II Mag | June 23 (RH): High residue cultivator pass. June 24 (SH): 5oz Status + NIS + UAN. June 27 (RH): High residue cultivator pass #2. |
| | Rye | Fall 2010 | none | none | none |
| | Rye (fall plant) | Sept 21 (Ca,R) Oct ## (R,S,R) | none | Aug 26 (Ca,R): Volunteer canola burned down with 22 fl oz. Roundup Powermax and 16 fl oz. 2,4-DLVE | none |
| | Soybeans | May 14 (SH) June 8 (SH)* *replant May 31 (RH) | None | May 6 (RSR/SH): Rye burned down with 22 fl oz. Roundup Powermax & 1 pt 2,4-DLVE. May 12 (RSR/RH): Rye burned down with 22 fl oz. Roundup Powermax & 1 pt 2,4-DLVE. May 31 (RH): Banded herbicides: 3 oz Valor XLT & 1.67 Dual II Mag | May 20 (SH): 3 oz Valor XLT July 7 (RH): High residue cultivator pass. July 9 (SH): 22 oz/A Roundup Powermax |

Table 4 (cont.): NESARE PEST MANAGEMENT INFORMATION: 2011

| | | | | | |
|--------------------------|------------|--------|--|--|---|
| Corn-Soy Rotation | Corn Grain | June 1 | Fludioxonil, mefenoxam, & azoxystrobin fungicides + clothianidin & thiamexotham insecticides, + tebuconazole | none | June 4: SureStart (1.75 pt), AAtrex (1 qt), and Roundup Powermax (22 oz) herbicides + Warrior insecticide (3.5 oz) June 29: Roundup Powermax (22 oz/A) + Status (5 oz/A) |
| | Soybean | June 7 | None | June 3: Roundup Powermax (22 oz) + 2,4-DLVE (1 pt) | July 9: 22 oz/A Roundup Powermax |

Cg: Cruiser Extreme 250: thiamexotham insecticide + 3 fungicides (Apron [mefenoxam], Maxim [mefenoxam + fludioxonil], Dynasty [azoxystrobin])

2,4 D LVE: 2,4 D

Accent: nicosulfuron

AAtrex 4L: atrazine

Buctril: bromoxynil

Butyrac: 2,4 DB

Callisto: mesotrione

Clarity/Banvel: diglycolamine salt

Dual II Mag: S-metolachlor

Ignite: glufosinate

Permit: halosulfuron

Prowl H2O: pendimethalin

Status: dicamba + diflufenzopor

SureStart: acetochlor + flumetsulam + clopyralid

Valor XLT: fumioxazin + cloransulam methyl

Roundup Powermax: glyphosate

* 22 oz (0.75 lb/A)

* 32 oz (1.125 lb/A glyphosate + 2 lb AMS/A)

Warrior Insecticide: lambda-cyhalothrin